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A COMPANION

TO THE

BRITISH PHARMACOPŒIA.

THIRD EDITION.

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A COMPANION

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TO THE

BRITISH PHARMACOPŒIA

COMPARING THE STRENGTH OF THE VARIOUS PREPARATIONS

WITH THOSE OF

THE LONDON, EDINBURGH, AND DUBLIN,

UNITED STATES, AND OTHER FOREIGN PHARMACOPŒIAS.

WITH

PRACTICAL HINTS ON PRESCRIBING.

BY

PETER SQUIRE, F.L.S.,

CHEMIST ON THE ESTABLISHMENT OF THE QUEEN,
CHEMIST IN ORDINARY TO THE PRINCE OF WALES, AND THE ROYAL FAMILY,
LATE PRESIDENT OF THE PHARMACEUTICAL SOCIETY.

Third Edition.

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19 Aug 10 A.P.B.

PREFACE TO THE THIRD EDITION.

In consequence of the rapid sale of the First and Second Editions of this work, it has become necessary to publish a Third.

The Author has seized this opportunity of adding useful information to the book; and, acting on the kind suggestions of numerous professional friends, has made many additions to the Non-Officinal Preparations. He has also carefully corrected all that portion of the work which referred to the Prussian Pharmacopœia, the seventh edition of which has just appeared. The results of more mature experience will be found under such heads as Liquor Ferri Perchloridi, etc., and the Groups have now added to them the pages, for the purposes of more ready reference.

277, *Oxford Street,*
January 1*st*, 1866.

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A COMPANION

TO THE

BRITISH PHARMACOPŒIA.

THIRD EDITION.

EQUIVALENTS OF ENGLISH WEIGHTS TO FRENCH GRAMMES.

1 pound avoirdupois	7000 Troy grains ...	or	16 ounces ...	=	453·592	French grammes.
	6562·5	or	15	=	425·241	,, ,,
	6125	or	14	=	396·892	,, ,,
	5687·5	or	13	=	368·543	,, ,,
	5250	or	12	=	340·194	,, ,,
	4812	or	11	=	311·844	,, ,,
	4375	or	10	=	283·495	,, ,,
	3937·5	or	9	=	255·145	,, ,,
	3500	or	8	=	226·796	,, ,,
	3062	or	7	=	198·446	,, ,,
	2625	or	6	=	170·097	,, ,,
	2187·5	or	5	=	141·747	,, ,,
	1750	or	4	=	113·398	,, ,,
	1312·5	or	3	=	85·048	,, ,,
	875	or	2	=	56·699	,, ,,
1 ounce,	437·5	or	1	=	28·349	,, ,,
	218·75	or	$\frac{1}{2}$	=	14·174	,, ,,
	109·25	or	$\frac{1}{4}$	=	7·087	,, ,,
	15·43			=	1	
	1·543			=	·1, a décigramme.	
1 grain,	1			=	·0648	
	·15 or $\frac{1}{7}$ nearly			=	·01, a centigramme.	
	·015 or $\frac{1}{70}$ nearly			=	·001, a milligramme.	

EQUIVALENTS OF FRENCH GRAMMES TO ENGLISH WEIGHTS.

1 kilogramme,	1000 French grammes	=	35 ounces	and	100 grains.	
	900	=	31	and	$308\frac{3}{4}$	,,
	800	=	28	and	80	,,
	700	=	24	and	$288\frac{3}{4}$	,,
	600	=	21	and	60	,,
	500	=	17	and	$268\frac{3}{4}$	,,
	400	=	14	and	40	,,
	300	=	10	and	$248\frac{3}{4}$	,,
	200	=	7	and	20	,,
1 hectogramme,	100	=	3	and	$228\frac{3}{4}$	,,
	90	=	3	and	75	,,
	80	=	2	and	358	,,
	70	=	2	and	$203\frac{3}{4}$	,,
	60	=	2	and	50	,,
	50	=	1	and	333	,,
	40	=	1	and	$178\frac{3}{4}$	,,
	30	=	1	and	25	,,
	20	=	.....		308	,,
1 décagramme,	10	=	.....		$154\frac{1}{2}$	,,
	5	=	.....		77	,,
1 gramme,	1	=	.....		$15\frac{1}{2}$	,, nearly.
	·5	=	.....		$7\frac{3}{4}$	,, ,,
1 décigramme,	·1	=	.....		$1\frac{1}{2}$	,, ,,
	·05	=	.....		$\frac{3}{4}$	,, ,,
1 centigramme,	·01	=	.....		$\frac{1}{7}$	,, ,,
	·005	=	.....		$\frac{1}{14}$	,, ,,
1 milligramme,	·001	=	.....		$\frac{1}{70}$	,, ,,

BEAUMÉ'S HYDROMETER COMPARED WITH THE SPECIFIC GRAVITY OF LIQUIDS HEAVIER THAN WATER,

1·000 BEING TAKEN AS THE SPECIFIC GRAVITY OF DISTILLED WATER AT 60° F.

Beaumé.	Sp. G.	Beaumé.	Sp. G.
0	1·000	34	1·309
1	1·007	35	1·321
2	1·014	36	1·334
3	1·022	37	1·346
4	1·029	38	1·359
5	1·036	39	1·372
6	1·044	40	1·384
7	1·052	41	1·398
8	1·060	42	1·412
9	1·067	43	1·426
10	1·075	44	1·440
11	1·083	45	1·454
12	1·091	46	1·470
13	1·100	47	1·485
14	1·108	48	1·501
15	1·116	49	1·516
16	1·125	50	1·532
17	1·134	51	1·549
18	1·143	52	1·566
19	1·152	53	1·583
20	1·161	54	1·601
21	1·171	55	1·618
22	1·180	56	1·637
23	1·190	57	1·656
24	1·199	58	1·676
25	1·210	59	1·695
26	1·221	60	1·715
27	1·231	61	1·736
28	1·242	62	1·758
29	1·252	63	1·779
30	1·261	64	1·801
31	1·275	65	1·823
32	1·286	66	1·847
33	1·298		

TABLE COMPARING THE PHARMACEUTICAL HYDROMETER WITH BEAUMÉ'S FOR SPIRIT,

INDICATING AT THE SAME TIME THE SPECIFIC GRAVITY AND PERCENTAGE OF ALCOHOL AT A TEMPERATURE OF 15° CENTIGRADE = NEARLY 60° FAHRENHEIT.

Pharmaceutical.	Beaumé's.	Specific Gravity.	Percentage of Alcohol.
0	10	1·0000	0·
1	11	0·9935	4·6
2	12	0·9863	10·1
3	13	0·9796	16·3
4	14	0·9730	23·0
5	15	0·9669	29·0
6	16	0·9600	34·4
7	17	0·9530	38·5
8	18	0·9473	43·2
19	19	0·9412	47·3
10	20	0·9350	49·7
11	21	0·9290	52·7
12	22	0·9231	55·6
13	23	0·9172	58·5
14	24	0·9114	61·0
15	25	0·9057	63·6
16	26	0·9000	66·0
17	27	0·8944	68·4
18	28	0·8889	70·6
19	29	0·8834	72·7
20	30	0·8781	74·8
21	31	0·8727	76·8
22	32	0·8675	78·9
23	33	0·8623	80·7
24	34	0·8571	82·5
25	35	0·8521	84·3
26	36	0·8471	86·0
27	37	0·8421	87·5
28	38	0·8372	89·1
29	39	0·8324	90·5
30	40	0·8276	92·0
31	41	0·8229	93·3
32	42	0·8182	94·5
33	43	0·8136	95·7
34	44	0·8090	96·8
35	45	0·8045	98·1
36	46	0·8000	98·8
37	47	0·7956	99·8
38	48	0·7912	
39	49	0·7868	
40	50	0·7826	
41	51	0·7783	
42	52	0·7742	
43	53	0·7700	
44	54	0·7659	
45	55	0·7619	
46	56	0·7579	
47	57	0·7539	
48	58	0·7499	
49	59	0·7461	
50	60	0·7422	
51	61	0·7384	

TABLE OF COMPARISON OF THE FAHRENHEIT WITH THE CENTIGRADE THERMOMETER.

1° Fahrenheit = ·555° Centigrade.
1° Centigrade = 1·8° Fahrenheit.

	Fahrenheit.	Centigrade.	
A Mixture of Salt and Ice	0°	−17·78°	
	5	−15·00	
	10	−12·22	
	15	−9·44	
	20	−6·67	
	25	−3·88	
	30	−1·11	
	32	0·00	Freezing Point.
	35	1·67	
Greatest Density of Water	39·2	4·00	
	40	4·44	
	45	7·21	
	50	10·00	
	55	12·77	
	60	15·56	
	62	16·67	
	65	18·33	
	70	21·11	
	75	23·88	
	80	26·67	
	85	29·44	
	90	32·22	
	95	34·99	
Blood Heat	98	36·67	
	100	37·78	
	105	40·55	
	110	43·33	
	115	46·10	
	120	48·89	
	125	51·66	
	130	54·44	
	135	57·21	
	140	60·00	
	145	62·77	
	150	65·55	
	155	68·32	
	160	71·11	
	165	73·88	
	170	76·66	
	175	79·43	
	180	82·22	
	185	84·99	
	190	87·77	
	195	90·54	
	200	93·33	
	205	96·10	
	210	98·88	
	212	100·00	Boiling Point of Water.

It is almost unnecessary to explain the few Abbreviations used in this Work. In the comparison of the various Pharmacopœias, the abbreviations Austr. Belg. Fr. Pr. and U. S. refer to the Pharmacopœias of Austria, Belgium, France, Prussia, and the United States. In the Measures, C. means Congium, O. Octarium.

THE WEIGHTS AND MEASURES OF THE BRITISH PHARMACOPŒIA, AT THE TEMPERATURE OF 60° FAHRENHEIT.

Weights.

The Avoirdupois pound = 16 oz. = 7000 grs.
1 oz. = 437·5 grs.
1 gr. = 1 gr.

Measures.

C	1 gallon	= 8 pints,	weighing	10 pounds.
O	1 pint	= 20 fluid ounces	„	1¼ „
fl. oz.	1 fluid ounce	= 8 fluid drachms	„	437·5 grains.
fl. dr.	1 fluid drachm	= 60 minims	„	54·68 „
♏	1 minim		„	·91 „

35 fluid ounces are contained in the French Litre.

In the American Pharmacopœia the Troy ounce of 480 grains is adopted; but the pound, drachm, and scruple are not used. The measures have the same names as the British, but are different in value, the pint weighing 16 oz. 291·2 grains Avoirdupois, and the fluid ounce 455·7 grs. In the formulæ, the Acids and Oils are ordered by weight, other liquids by measure. In other foreign countries all medicines are weighed, and the gramme is becoming universally adopted.

The Prussian Pharmacopœia is mostly used in Germany and Russia; the French in Switzerland; that of Orosi in Italy.

Graduated measures require testing before use, which is easily done with good weights and scales, and distilled water. Every fluid ounce ought to weigh an ounce, but there are two lines on the surface of a liquid; the upper one is that of capillary attraction to the sides of the vessel; the lower one the exact surface of the fluid. This should be on a line with the eye to measure accurately.

Specific Gravity of Syrups, etc., may be tested with a ten-ounce measure. Ten measured ounces of simple syrup should weigh nearly thirteen ounces and one-third, representing the sp. gr. 1·330.

In the formula for the Syrups of the British Pharmacopœia they are directed to be made to a given weight, and the specific gravity is also stated. It can be easily ascertained what any of these weights would measure by dividing the weight by the specific gravity; thus Syrupus Scillæ is directed to weigh 50 oz., and the specific gravity to be 1·330, then 1·330)50·000(37·5 or 37½ ounces by measure.

OPINIONS OF THE PRESS.

ON THE FIRST EDITION.

"It is remarkable for its fulness, accuracy, good arrangement, the practical utility of the formulæ, and the hints given for prescribing. It will be the standard authority on the subject—the necessary companion of dispensing chemists and of most prescribers."—*Lancet.*

"This book has all that the Pharmacopœia itself lacks. The medicinal properties of every article of the materia medica are fully described, and the dose of every preparation is accurately given. The differences between the British Pharmacopœia medicines and those given in the last editions of eight Pharmacopœias, English and foreign, are pointed out. In fact, Mr. Squire's book supplies a want which every chemist and druggist has experienced."—*Chemist and Druggist.*

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ON THE SECOND EDITION.

"This work, which we characterized as a standard of reference, has already reached a second edition—a pretty safe indication that its high merits are appreciated. The work altogether is greatly enlarged, is handsomely bound, and with cut edges. For the student, the prescriber, and the dispenser, the volume may be regarded as a most complete guide."—*The Lancet.*

"This new edition of Mr. Squire's successful book is so much enlarged and improved as to deserve a separate notice as a new work. . . . . Mr. Squire has made the best book on the British Pharmacopœia much better and more useful."—*Chemical News.*

"Mr. Squire's work is a true supplement to the Pharmacopœia, . . . very full of matter, very compact, and clearly arranged, . . . and shows marks of work and thought in every line."—*Med. Times.*

"We have to welcome a second edition of this model work of reference. It is a practical guide for the pharmaceutist and prescriber."—*Chemist and Druggist.*

MATERIA MEDICA

WITH

COMPOUNDS AND PREPARATIONS.

ACACIA.

WHITE TURKEY GUM ARABIC.

A gummy exudation from the stem of the Acacia, collected chiefly in Cordofan in Eastern Africa, and imported from Alexandria.

Contains about 17 per cent. of water.

Solubility in water, 1 in 1. Insoluble in Alcohol, Ether, and Oils.

Test.—Powder of gum should be white and free from Starch, and therefore, after boiling in water and cooling, should not be rendered blue by Iodine.

Medicinal Properties.

Emollient, nutritive. For a demulcent drink, 1 of Mucilage, 1 of Syrup, and 20 of Water, are the best proportions.

Dose.—Ad libitum.

Preparations.

MUCILAGO.

Gum, 40; distilled water, 60: dissolve without heat. =(1 and 1½).

The product measures only 87, therefore 4 of Gum are contained in 8¾ measures of Mucilage. Sp. g. 1·170.

(Same as Dub.; rather stronger than Edin.; Lond. Mistura Acaciæ, 1 and 2; Fr. 1 and 1; Austr. 1 and 2; Pr. 1 and 3; Belg. 1 and 4—also M. Spissa, 1 and 2—and M. Levis, 1 and 9; U. S. about 1 and 2.)

It is much used in cough linctuses and lozenges, and frequently to render oils, etc., emulsive with aqueous fluids; 3 drms. are required for 1 oz. of oils or resinous tinctures, 10 drms. for 1 oz. of copaiba. The mucilage should be put into a mortar and the oil added by degrees, with constant trituration. Used to keep Bismuth and other powders suspended, but Tragacanth answers better. It is sometimes used to make powders into pills, but they become hard after being kept a short time, therefore castor oil, glycerine, treacle, etc., are to be preferred. Mucilage, if kept only a week in hot weather, becomes sour, and its emulsive property is impaired: if made with hot water the change is more rapid. It is impossible to make a nice emulsion with some of the oils (the oil of Male Fern for instance), unless the Mucilage be quite fresh.

ACETUM.

VINEGAR.

Impure dilute Acetic Acid, of a straw colour and acetous odour, prepared from French Wine by the acetous fermentation.

(Edin. Dub. Belg. Fr. Pr.; U. S. without Sulphuric Acid; Lond. with Sulphuric Acid; not in Austr.)

Test.—Sp. g. 1·008 to 1·022. It is scarcely affected by Chloride of Barium or Oxalate of Ammonia, and not at all by Sulphuretted Hydrogen. Indicating a trace of Sulphuric Acid and lime, and absence of metals.

Medicinal Properties.

Said to diminish profuse sweating in hectic cases. With sage it forms an astringent gargle. Used externally in lotions and fomentations. Used also to sponge the surface of the skin to allay heat, or with lint as a cooling discutient to bruises and sprains. The most ready and safe antidote in cases of poisoning by alkalies.

Orleans Vinegar may be had at the Italian warehouses; it however constantly deposits by keeping, and seems to possess no advantage over our own vinegar, which keeps much better, probably on account of the $\frac{1}{1000}$ part of Sulphuric Acid which is allowed by law to be added.

Dose.—1 to 3 drms., diluted.

ACIDUM ACETICUM.

In former Pharmacopœias there were ten degrees of strength ordered of ACIDUM ACETICUM. *The British Pharmacopœia now orders only three:—*

ACIDUM ACETICUM . . .	sp. g. 1·044,	cont. 28 per cent.		8 times stronger than the Diluted.
ACIDUM ACETICUM DILUTUM	„ 1·006,	„ 3·5	„	3 times stronger than the Acidum Aceticum.
ACIDUM ACETICUM GLACIALE	„ 1·065,	„ 85	„	

ACIDUM ACETICUM.

PYROLIGNEOUS ACID.

An acid liquid prepared from wood by destructive distillation, and containing 28 per cent. of dry acid.

(Same as Dub.; Lond. 30·8; Edin. 21; U. S. 30·6; Pr. Acid. Acet. Dilut. 29; Austr. 25 per cent.; not in Belg. and Fr.)

Test.—Sp. g. 1·044. 3 fluid drachms require for neutralization 94·5 measures of the volumetric solution of Soda. It leaves no residue when evaporated; gives no precipitate with Sulphuretted Hydrogen, Chloride of Barium, or Nitrate of Silver; and does not give rise to a blue colour when added gradually to an equal volume of the solution of Iodate of Potash previously mixed with a little mucilage of Starch. Indicating absence of metals, Sulphuric Acid, Hydrochloric Acid, Sulphurous Acid.

Equal volumes of this acid and water mixed are of the same neutralizing power as the diluted mineral acids.

There are no Aceta in the British Pharmacopœia.

Used only in the preparation of other medicines, and contained in Extractum Colchici Aceticum, Linimentum Cantharidis, Acidum Aceticum Dilutum, Liquor Ammoniæ Acetatis, Oxymel.

ACIDUM ACETICUM DILUTUM.

DILUTED ACETIC ACID.

Of the strength of distilled vinegar. Contains 3·5 per cent. of dry acid.

Acidum Aceticum, 1; distilled water, 7: mix.

Test.—Sp. g. 1·006. 3 fluid ounces require for neutralization 93 measures of volumetric solution of Soda.

(Same as Dub.; Lond. 4·6; Edin. 3; Austr. and Pr. 4; Belg. 5·5 per cent.; Fr. distilled from Wine Vinegar.)

Medicinal Properties.

The same as common vinegar.

Dose.—1 to 3 drms. with water.

ACIDUM ACETICUM GLACIALE.

GLACIAL ACETIC ACID.

Monohydrated Acetic Acid, $HO, C_4H_3O_3$, eq. 60, containing 85 per cent. of dry acid.

(Same as Acidum Aceticum, Edin. and Pr.; Acidum Aceticum Glaciale, Dub.; Vinaigre Radicale, Fr.; A. A. Concentratissimum, Austr.; A. A. Concentratum, Belg.; not in U. S.)

Test.—Sp. g. 1·065. 1 fluid drachm requires for neutralization 97 measures of the volumetric solution of Soda. It does not give rise to a blue colour when added gradually to an equal volume of the solution of Iodate of Potash previously mixed with a little mucilage of Starch. Indicating absence of Sulphurous Acid.

It is more than three times stronger than Acidum Aceticum, and twenty-four times stronger than Acidum Aceticum Dilutum. It is a colourless liquid, with pungent acetous odour, and is converted into a mass of crystals when cooled to 32° F.

Medicinal Properties.

Escharotic; used for corns, and warts especially when of a syphilitic character; it speedily vesicates, and thus is useful in cases where Cantharides may do harm by being absorbed, but it causes much pain, and, if applied incautiously, may produce a most troublesome sore.

It is an ingredient in Mistura Creasoti. Concentrated Acetic Acid dissolves Creasote, yet the quantity ordered in Mistura Creasoti is of no use, as the Creasote dissolves freely without it.

Not Official.

ACIDUM ACETICUM AROMATICUM, Belg. and Pr.—Glacial Acetic Acid, 72; Oil of Cloves, 9; do. Lavender, 6; do. Orange, 6; do. Bergamot, 3; do. Thyme, 3; do. Cinnamon, 1; mix and filter.

VINAIGRE DE QUATRE VOLEURS (Fr.).—Tops of the Greater and Lesser Wormwood, Rosemary, Sage, Peppermint, Rue, Lavender Flowers, of each 8; Calamus Root, Cinnamon, Cloves, Nutmeg, Garlic, of each 1; Camphor, 2; Glacial Acetic Acid, 8; Strong Vinegar, 500: dissolve the Camphor in the Glacial Acid; macerate the other ingredients in the Vinegar for fifteen days; press and mix.

ACIDUM ARSENIOSUM.

ARSENIOUS ACID.

Teroxide of Arsenic, AsO_3; eq. 99.

A heavy white powder.

Solubility in cold water, 1 in 100; in boiling water, 1 in 20.

Test.—Entirely volatilized by heat; sublimes entirely in octahedral crystals. Four grains of it, dissolved in boiling water with 8 grains of Bicarbonate of Soda, discharge the colour of 80·8 measures of the volumetric solution of Iodine. The Arsenite of Soda is converted into Arseniate, and the Iodine into Iodide of Sodium.

Medicinal Properties.

Given in chronic cutaneous diseases and in chronic rheumatism of the joints; it is an antiperiodic in agues and neuralgic affections. Best given after meals. Externally as a powerful caustic, and requires great care, as there is danger of absorption.

Dose.—$\frac{1}{24}$ to $\frac{1}{12}$ of a grain, in solution; rarely prescribed in the solid form.

Preparations.

LIQUOR ARSENICALIS (Fowleri). *Syn.* LIQ. POTASSÆ ARSENITIS. Sp. g. 1·009.

Arsenious Acid, 80 gr.; Carbonate of Potash, 80 gr.; Compound Tincture of Lavender, 5 fl. drms.; distilled water, 20 oz.: boil till dissolved, add the tincture, and make up to 20 oz.

(Contained in all the Pharmacopœias, and is of the same strength, 4 grs. of Arsenic to the ounce, each fluid drachm containing half a grain.)

Dose.—2 to 5 minims twice a day in water with meals.

ARSENIAS SODÆ.—*See* SODÆ ARSENIAS.

ARSENIATIS SODÆ LIQUOR.—*See* SODÆ ARSENIATIS LIQUOR.

Not Officinal.

LIQUOR AMMONIÆ ARSENITIS was preferred by the late Mr. Gaskoin and made of the same strength, Carbonate of Ammonia being substituted for Carbonate of Potash.

THE SOLUTIO SOLVENTIS MINERALIS of Dr. De Valangin (the Liquor Arsenici Chloridi of the London Pharmacopœia) contains 30 grains of Arsenic dissolved by 90 minims of Hydrochloric Acid in 20 oz. of Water; is about one-third of the strength of the above. *Dose.*—3 minims three times a day, increasing to 10 minims for chorea.

DONOVAN'S SOLUTION (The Liquor Arsenici et Hydrargyri Hydriodatis of the Dublin Pharmacopœia). A fluid drachm contains $\frac{1}{12}$th of a grain of Arsenic, $\frac{1}{4}$th of a grain of Mercury, $\frac{3}{4}$ths of a grain of Iodine. *Dose.*—10 to 30 min.

ARSENICAL PASTE for Dentists.—Arsenious Acid, 2; Sulphate of Morphia, 1; Creasote to make a stiff paste. A quantity of the size of a pin's head is ample for one application. It should be spread on cotton-wool and placed in the tooth. It will thus destroy the sensibility of a carious tooth, and in a few minutes the tooth is ready for stopping.

ARSENICAL CAUSTIC POWDERS contain from $\frac{1}{16}$ to $\frac{1}{8}$ of Arsenious Acid to 1 of Calomel, Vermilion, or Sulphuret of Antimony, or of any combination of them.

IODIDE OF ARSENIC, given in Lepra. *Dose.*—$\frac{1}{30}$ of a grain in pill.

ACIDUM BENZOICUM.

BENZOIC ACID.

$HO,C_{14}H_5O_3$; eq. 122.

In white crystalline silky plates, sublimes without residue.

Solubility in water, 1 in 300; more so in hot water; in spirit, 1 in 4. Soluble also in caustic alkalies and Lime. Borax adds much to its solubility in water; 1 of Borax and 1 of acid are soluble in 100 water.

Test.—When heated, it sublimes without residue.

Medicinal Properties.

Stimulant, expectorant; said to cure nocturnal incontinence of urine.

Dose.—5 to 15 grs. in a large quantity of water, or in pills made with Glycerine; 5 grs. acid and 1 min. Glycerine makes a good pill.

Contained in Ammon. Benzoas, and in Tinct. Camphoræ c. Opio.

See BENZOINUM.

ACIDUM CITRICUM.

CITRIC ACID.

$3HO,C_{12}H_5O_{11}+HO$; eq. 201.

An acid obtained from Lemon Juice or from the juice of the fruit of *Citrus Limetta*, the Lime.

Contains 4 equiv. of water; 3 are basic, and 1 of crystallization. In colourless right rhombic prisms.

Solubility in water, 10 in 6; in rectified spirit, 10 in 15.

Test.—67 grains dissolved in water require for neutralization 100 measures of volumetric solution of Soda. 100 grains dissolved in water require for neutralization 150 grains of Bicarbonate of Potash. It leaves no ash when burnt with free access of air. Dissolved in water, it is not darkened with Sulphuretted Hydrogen, and gives no precipitate when dropped into solution of Lime, or when added to a solution of Acetate of Potash or Chloride of Barium. Indicating absence of metals, Oxalic, Tartaric, and Sulphuric Acids.

(In all the Pharmacopœias.)

Acid, 1, dissolved in Distilled Water, 14, is a substitute for lemon-juice, but neither of them keep long without spoiling.

17 grs. of Citric Acid, or half a fluid ounce of fresh lemon-juice	neutralize	25 grs. Bicarbonate of Potash.
		20 „ Carbonate of Potash.
		20 „ Bicarbonate of Soda.
		35 „ Carbonate of Soda.
		15 „ Carbonate of Ammonia.
		13 „ Carbonate of Magnesia.

Medicinal Properties.

Refrigerant; allays thirst and irritation of the skin.

Prescribed in powders to be taken with each dose of an alkaline mixture during effervescence; or in solution, directing the quantity to be taken with the alkaline mixture.

Dose.—10 to 30 grs. in a wineglassful of water.

Contained in Ferri et Ammoniæ Citras, Ferri et Quinæ Citras, Lithiæ Citras, Potassæ Citras, and in all the granular effervescing citrates.

ACIDUM GALLICUM.

GALLIC ACID.

$3HO, C_{14}H_3O_7 + 2HO$; eq. 188. Prepared from Galls.

In acicular prisms of a pale fawn colour.

Solubility in cold water, 1 in 100; in boiling water, 1 in 3; in rectified spirit, 1 in 8; in Glycerine, 1 in 20.

A solution in rectified spirit will mix in any proportion with water without separating, but becomes brown by keeping.

Test.—It leaves no residue when burnt with free access of air. Its solution gives no precipitate with Gelatine, nor does it colour the Protosalts of Iron. Indicating absence of earthy matters and of Tannic Acid.

Care must be taken that the Protosalt of Iron is entirely free from Persalt, or the test fails.

Medicinal Properties.

Astringent; given in all cases where the bleeding vessels must be reached through the circulation; it is considered by some to be more effective than Tannic Acid. It is given also in pyrosis and the night sweats of phthisis.

Dose.—3 to 5 grs. three times a day, dissolved in warm water or suspended in mixture by mucilage; 10 to 60 grs. every five hours in albumenuria, when the urine is of low specific gravity. It is also given in pills: 30 grs. acid and 4 minims of Glycerine will make 6 pills.

See GALLA.

(Lond. Dub. Austr. U.S.; not in others.)

ACIDUM HYDROCHLORICUM.

HYDROCHLORIC ACID.

$HCl, 9HO$; eq. 117·5.

Syn. ACIDUM MURIATICUM PURUM, *Edin. Dub.*

Contains 34·2 per cent. of Hydrochloric Acid gas.

(Same as Edin. and Fr.; Lond. 32·2; Dub. 35·4; Belg. 36·2; Pr. 25; Austr. 24; U.S. 32 per cent.)

Test.—Sp. g. 1·170. 100 minims require for neutralization 100 measures of volumetric solution of Soda. When diluted with four times its volume of distilled water, it gives no precipitate with Chloride of Barium, is not discoloured by Sulphuretted Hydrogen or Sulphocyanide of Potassium, and does not tarnish bright copper-foil when boiled in it. Indicating absence of Sulphuric Acid, metals, and Arsenic.

Medicinal Properties.

Given in a very dilute form, as a refrigerant, antiseptic, and tonic; applied with an equal quantity of water to diphtheritic patches in the throat.

Preparations.

ACIDUM HYDROCHLORICUM DILUTUM.

Acid, 3; Distilled water, 8: mix.

Contains 10·2 per cent. of acid gas.

(Same as Edin.; Lond. 9; Dub. 9·35; Belg. 6·5; U.S. 7·8; Austr. 12 per cent.; not in Fr. and Pr.)

Test.—Sp. g. 1·050. Six fluid drachms require for saturation 99 measures of volumetric solution of Soda; it therefore contains nearly 1 equivalent in grains (36½) of Hydrochloric Acid gas.

Three and a half minims contain 1 minim Strong Acid.

Dose.—10 to 30 minims with bitter infusions; 1 drm. in 8 oz. of Infusion of Roses as a gargle for ulcerated sore-throat.

ACIDUM HYDROCYANICUM DILUTUM.

DILUTED HYDROCYANIC ACID.

Hydrocyanic Acid, HC_2N (eq. 27), dissolved in water, and constituting 2 per cent. of the solution.

(Same as Lond. Dub. Austr. and U.S.; Belg. 2·5; Edin. 4; Fr. *Acide Cyanhydrique*, 10 per cent.; not in Pr.)

Test.—Sp. g. ·997. Half a fluid ounce of the acid, when treated with an excess of the solution of Soda, requires the addition of 80·66 measures of the volumetric solution of Nitrate of Silver before a permanent precipitate begins to form, which corresponds to 2 per cent. of anhydrous acid. This test is that of Liebig. The addition of the Soda to the Prussic Acid produces Cyanide of Sodium, and this again becomes Cyanide of Silver when the Nitrate of Silver is dropped in; but as one equivalent of Cyanide of Silver combines with one equivalent of Cyanide of Sodium to form a soluble compound, it is only when exactly one-half of the Cyanide of Sodium has been converted into Cyanide of Silver, that a permanent precipitate is produced. It gives no precipitate with Chloride of Barium, but with Nitrate of Silver it gives a white precipitate entirely soluble in boiling Nitric Acid. Indicating absence of Sulphuric and Hydrochloric Acids.

Medicinal Properties.

As this acid is a dangerous poison, it should never be prescribed alone.

It is sedative, antispasmodic, allays vomiting, is useful in gastrodynia, and in some forms of dyspepsia. Used externally to allay itching of the skin; as Lotion 2 drms. to 8 oz. of Rose Water, as Ointment from ½ drm. to 1 drm. to each ounce of Zinc Ointment.

Prescribed in Almond Emulsion for cough, and with Bicarbonate of Soda and Peppermint Water for dyspepsia.

Dose.—2 to 8 minims.

Not Officinal.

INHALATIO.—Diluted Hydrocyanic Acid, 10 to 15 minims, for one inhalation.

Scheele's Prussic Acid, which is still much used by Apothecaries who dispense their own medicines, contains from 4 to 5 per cent.; but it is more liable to lose power than the Pharmacopœia preparation, and if not kept in a very cool place, will materially diminish in strength, and a larger dose will then be required; if then a fresh supply be procured, the dose must be diminished. This uncertainty is dangerous, the acid therefore should be disused.

ACIDUM NITRICUM.

NITRIC ACID.

$$3\,HO,2\,NO_5=(1\tfrac{1}{2}HO,NO_5;\ \text{eq. } 67{\cdot}5).$$

Contains 79·7 per cent. of dry acid.

(Same as Edin. and Dub.; Lond. 60; Fr. and Belg. 53·4; Pr. Fumans more than 79·7; U. S. 60; Austr. 40 per cent.)

Test.—Sp. g. 1·500. 1 fluid drachm of the acid requires for neutralization 121·5 measures of the volumetric solution of Soda; $49\frac{1}{3}$ minims are then equal to 100 measures. Evaporated, it leaves no residue. Diluted with six volumes of distilled water, it gives no precipitate with Chloride of Barium or Nitrate of Silver. Indicating absence of Sulphuric and Hydrochloric Acid.

It is to be regretted that the Lond. sp. g. 1·420, with four equivalents of water, was not adopted, for it kept without change, and was really strong enough for all pharmaceutical purposes; that of Edin. and Dub. sp. g. 1·500 is too strong to keep even a short time without change.

5 measures of Acid, sp. g. 1·500, and 2 of water condenses into $6\frac{3}{4}$ measures, and makes the strength, according to the Lond. Pharm., sp. g. 1·420.

Medicinal Properties.

It is strongly corrosive, and is applied as a caustic to phagedenic sores and chancres by means of a pointed glass rod. When diluted it is refrigerant, tonic, and antiseptic. Given in a very diluted form as a drink in febrile diseases, especially typhus, and as an injection in phosphatic calculus.

Preparations.

ACIDUM NITRICUM DILUTUM.

Nitric Acid, 2; Distilled water, 13. Contains 15 per cent. of dry acid.

(Lond. 12; Edin. 11·2; Dub. 13·5; U. S. 10 per cent.; Belg. 17·5; Austr. 20; not in Pr.)

Test.—Sp. g. 1·101. Six fluid drachms require for neutralization 100 measures of volumetric solution of Soda, and therefore contains exactly one equivalent in grains of anhydrous acid, namely 54 grs.

$7\frac{1}{2}$ minims contain 1 minim of Strong Acid.

Prescribed with bitter infusions and Tincture of Orange. Infusion of Roses made with this acid, instead of Sulphuric Acid, and sweetened, is the most elegant form for administering Quinine with an astringent. Sulphuric Acid, by precipitating the tannate of Quinine, makes a turbid mixture (Pharm. Journ., vol. i. p. 585).

Dose.—15 to 25 minims.

ACIDUM NITROHYDROCHLORICUM DILUTUM.

DILUTE NITRO-HYDROCHLORIC ACID.

Nitric Acid, 2; Hydrochloric Acid, 4; Water, 26.

Test.—Sp. g. 1·074. 6 fluid drachms require for neutralization 93·88 measures of the volumetric solution of Soda.

(The concentrated acids are directed in Dub. and all the foreign Pharmacopœias, but the U. S. has both the concentrated, and the diluted corresponding in strength to the other diluted acids. The acids, however, are very properly ordered to be mixed together twenty-four hours, to develope the Chlorine before the water is added.)

16 minims contain 1 minim of Nitric Acid, 2 minims Hydrochloric Acid.

Medicinal Properties.

Tonic, stomachic, alterative. Externally as a lotion or bath, for obstructions of the liver.

Dose.—15 to 30 minims in 1½ oz. Water, with Succus Taraxaci, or Tinct. Aurantii.

Directions for Preparing and Using the Bath.

Mix 8 ounces by measure of this acid with 1 gallon of pure water, temperature 96° or 98° F. Let a flannel roller of ten or twelve inches wide and sufficient to encircle the body twice, be soaked in the fluid and then wrung, so as to remain only damp. Apply this instantly to the body, covering it with a piece of oiled silk to avoid damping the dress. It should be worn constantly, but should be changed, soaked, and wrung, morning and evening. Glass, glazed earthenware, or wooden vessels should be used. Sponges and towels to be kept in water to prevent them corroding.

ACIDUM PHOSPHORICUM DILUTUM.

DILUTED PHOSPHORIC ACID.

3 HO,PO_5 dissolved in water.

Contains 10 per cent. of real acid.

(Lond. 8·7 per cent. sp. g. 1·064; Fr. 52, sp. g. 1·454; Belg. 40, sp. g. 1·350; Pr. and Austr. Acid. Phosphoric. 16, sp. g. 1·130; U. S. 8, sp. g. 1·056; not in Edin. and Dub.)

Test.—Sp. g. 1·080. 6 fluid drachms poured upon 180 grains of Litharge in fine powder, leave, after evaporation, a residue which, heated to redness, weighs 215·5 grains, and is anhydrous Phosphate of Lead. It is not precipitated by Sulphuretted Hydrogen, Chloride of Barium, Nitrate of Silver acidulated with Nitric Acid, or by a solution of Albumen. Indicating absence of metals, Sulphuric Acid, Hydrochloric Acid, and Metaphosphoric Acid. When mixed with an equal volume of pure Sulphuric Acid, and then introduced into the solution of Sulphate of Iron, it does not communicate to it a dark colour. Indicating absence of Nitric Acid.

Medicinal Properties.

Tonic and refrigerant, having properties similar to Sulphuric Acid, but more palatable; it is said to correct the phosphates in the urine, and to allay thirst in diabetes. Given with Phosphate of Lime in rickets. It is also found

useful in cases with vomiting and diarrhœa, arising from a bilious attack; given in frequent doses.

Dose.—10 to 20 minims largely diluted with water.

Prescribed with some bitter and aromatic tinctures and syrups, or with the syrup of the Phosphate of Iron, but not with the Syrup of Pyrophosphate of Iron, as the mixture becomes solid.

ACIDUM SULPHURICUM.

SULPHURIC ACID.

Monohydrated Sulphuric Acid, HO,SO_3; eq. 49.

(In all the Pharmacopœias, ranging from sp. g. 1·843 to 1·847.)

The new Prussian Ph. sp. g. 1·840, containing 80 per cent. Anhydrous Acid.

Test.—Sp. g. 1·846.* Half a fluid drachm requires for neutralization 103 measures of volumetric solution of Soda. Evaporated in a platinum crucible, leaves no residue. Diluted with six times its volume of distilled water, it gives no precipitate with Sulphuretted Hydrogen. When a solution of Sulphate of Iron is poured upon it, no purple ring is formed at the surface of the two solutions. Indicating absence of fixed impurities, Arsenic and Nitrous Acid. Sulphate of Lead falls in a white precipitate by dilution merely. Arsenic is detected by Sulphuretted Hydrogen; Nitrous Acid by Sulphate of Iron.

Medicinal Properties.

A powerful caustic, and when so used it is made into a paste with an equal quantity of charcoal; when diluted it is tonic, refrigerant, astringent, exciting the appetite and promoting digestion.

Preparations.

ACIDUM SULPHURICUM AROMATICUM. ELIXIR OF VITRIOL.

Contains 8·9 per cent. of dry acid.

(Not in Lond.; Edin. and Dub. 15; U. S. 10·5 per cent.; not in others.)

Sulphuric Acid, 3; Rectified Spirit, 40; Cinnamon in powder, 2; Ginger in powder, 1¼: mix the acid gradually with 35 of the spirit, add the powders, and macerate for 7 days; filter and add spirit to make 40.

Test.—Sp. g. 0·935. Six fluid drachms require for neutralization 84·75 measures of the volumetric solution of Soda.

Best prescribed alone, to be taken in water.

Dose.—10 to 30 minims.

Not Officinal.

MYNSICHT'S ELIXIR OF VITRIOL.—Cinnamon, Ginger, Cloves, each 3; Calamus Aromaticus, 8; Galangal, 12; Sage, 4; Peppermint, 4; Cubebs, 2; Nutmeg, 2; Aloes-wood, 1; Lemon-peel, 1; Sugar-candy, 32: Rectified Spirit, by weight, 144; Sulphuric Acid, by weight, 96. Digest for three weeks.

Dose.—5 to 10 minims.

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* True Monohydrated Sulphuric Acid has a sp. g. 1·848.

ACIDUM SULPHURICUM DILUTUM.

Contains 10·50 per cent. of dry acid.

(Same as Dub.; Lond. 12; Edin. 11; Pr. Belg. 13·5; Austr. 11; U. S. 10 per cent.)

Sulphuric Acid, 3; Distilled water, 35: mix gradually.

Test.—Sp. g. 1·087. 6 fluid drachms require for neutralization 100 measures of the volumetric solution of Soda indicating 1 eq. in grains of the anhydrous acid, namely 40 grs. If Sulphate of Lead is in the strong acid, it is precipitated when diluted.

Prescribed largely diluted in mixture: or in linctuses, with Confection of Hip and Syrup of Mulberries.

Dose.—5 to 10 or 20 minims.

ACIDUM SULPHUROSUM.

SULPHUROUS ACID.

Sulphurous Acid, SO_2, eq. 32, dissolved in water.

Contains 7 per cent. by weight, or 20 times its volume, of Sulphurous Acid gas.

(Same as U. S. Fr. *Acide Sulphureux*, sp. g. 1·053, containing about 30 times its volume; not in others.)

Test.—Sp. g. 1·040. 40 minims mixed with a little mucilage of Starch does not acquire a permanent blue colour with a volumetric solution of Iodine, until 109 measures of the latter have been added. Evaporated, it leaves no residue. This is a test of the strength, for if there is sufficient Sulphurous Acid, it will convert the whole of the 109 measures of volumetric solution of Iodine into Hydriodic Acid, which acid does not permanently render Starch blue.

Medicinal Properties.

It is a powerful deoxidizing agent, disinfecting and antiseptic, and destructive to vegetable life. It is given internally for sarcina ventriculi, and when mixed with two or three times its bulk of water or with an equal bulk of Glycerine, is an excellent application to the skin to destroy parasitic lichens, more especially to remove the crusts in favus.

Dose.—1 drm. or more, largely diluted with water. As a lotion, 1 part to 8 of water

Not Officinal.

SULPHITE OF SODA and HYPOSULPHITE OF SODA will be found under "SODA;" still as they are used for the purpose of eliminating Sulphurous Acid, they are noticed here.

ACIDUM TANNICUM.

TANNIC ACID.

An acid, $C_{54}H_{22}O_{34}$, eq. 618, obtained from Galls. In pale yellow amorphous powder.

100 Galls yield 33 Tannic Acid.

(In all the Pharmacopœias except Edin.)

Solubility in water, 10 in 8; in rectified spirit, 1 in 1; in Ether, sparingly in Glycerine, 1 in 8, or if warmed, 1 in 2.

Test.—Exposed to heat it partly melts, swells up, blackens, and at length burns away with a brilliant flame, leaving no residue. The organic matter is first reduced to charcoal, and then burnt away. It strikes a blue colour with persalts of Iron, and precipitates Gelatine. Indicating absence of earthy matters. The Iron and Gelatine tests distinguish it from Gallic Acid.

Medicinal Properties.

Styptic, astringent, in uterine hæmorrhage, dysentery, and diarrhœa.

Dose—3 to 15 grs.

Prescribed in water, and may be combined with the protosalts (but not with the persalts of Iron; with Potash, Soda, and Ammonia. 1 minim of Glycerine with 4 grs. makes a nice pill. Externally as a styptic, dissolved in Glycerine; as a wash, 5 grs. to 1 oz. of water; in ointments 40 grs. to 1 oz. 60 grs. to 1 oz. of Chalk makes an astringent dentifrice. For an injection, 5 grs. to 1 oz. of water.

Preparations.

SUPPOSITORIA ACIDI TANNICI.

Tannic Acid, 24 grs.; Glycerine, 20 minims; Prepared Lard, a sufficiency; White Wax, a sufficiency. Melt Lard, 80 grs., and Wax, 40 grs., in a water-bath; when nearly cold, add the Tannic Acid, previously mixed with the Glycerine. Divide into 12 conical suppositories. When cold, dip them into a melted mixture of Wax 3, Lard 8, to form a coating.

Each suppository contains 2 grains of Tannic Acid.

A new preparation.

Cacao butter answers perfectly to mix with it for a suppository.

TROCHISCI.

Each lozenge contains half a grain.

A new preparation.

Not Officinal.

VAGINAL SUPPOSITORY.—Tannic Acid, 10 grs.; White Wax, 25 grs.; melt and add Lard, 1½ drm. For one suppository.

Used in leucorrhœa.

1 drm. of Tannic Acid in a conical suppository with glycerine placed in the vagina, and plugged in with a sponge, effectually stops hæmorrhage.

ACIDUM TARTARICUM.

TARTARIC ACID.

An acid, 2 HO, $C_8H_4O_{10}$, eq. 150, obtained from the Acid Tartrate of Potash. In colourless, oblique, rhombic prisms, of a strongly acid taste.

(In all the Pharmacopœias.)

Solubility in water, 10 in 8; in rectified spirit, 1 in 8.

Test.—100 grains neutralize 133 grains of Bicarbonate of Potash. 75 grains dissolved in water require for saturation 100 measures of volumetric solution of Soda. Its aqueous solution is not affected by Sulphuretted Hydrogen, and gives no precipitate with solution of Sulphate of Lime, or Oxalate of Ammonia. Indicating absence of metallic contamination and Lime. If free

from Lime, it should leave no residue when burnt. It is distinguished from all other acids by forming with a solution of any neutral salts of Potash, a crystalline precipitate (a bitartrate).

Medicinal Properties.

The same as Citric Acid, for which it was once substituted.

Dose.—10 to 30 grs. in water.

When citric acid was very dear, tartaric acid was much employed to make saline draughts, and it frequently perplexed the dispenser, for if the bicarbonate of potash was added to a solution of tartaric acid, bitartrate was immediately formed, and was precipitated, whereas if tartaric acid was added to the potash salt, it might be added to the point of saturation, and remain perfectly soluble.

Contained in the tartrates of alkalies, antimony, and iron.

ACONITIA.

An alkaloid, $C_{60}H_{47}NO_{14}$, eq. 533, obtained from Aconite Root. A white, usually amorphous powder.

(U. S. and Belg. only.)

Solubility 1 in 150 in cold water, 1 in 50 in boiling water, more soluble in Alcohol; entirely in pure Ether.

Test.—When burnt it leaves no residue.

Medicinal Properties.

Not for internal use.

It relieves acute nervous pain when rubbed on the part in the form of ointment.

Preparation.

UNGUENTUM.

Aconitia, 8 grs.; Rectified Spirit, ½ drm.; Lard, 1 oz.: mix. =(1 in 60).

ACONITUM.

ACONITE.

HERB.

The fresh leaves and flowering tops of *Aconitum Napellus*, gathered when about one-third of the flowers are expanded, from plants cultivated in Britain.

(In all the Pharmacopœias.)

Medicinal Properties.

Anodyne. Relieves acute rheumatism, gastrodynia, and carcinoma. It diminishes expectoration in phthisis.

Preparation.

EXTRACTUM.

The inspissated juice, after the albumen has been separated.

100 lb. of plant produces 50 lb. of juice = 7 lb. extract, subject to variation.

(Same strength as Lond. and about half that of Edin. and Austr.; U. S., alcoholic, from dried leaves; Fr., from juice of the plant evaporated, dried and powdered; Belg. ditto, with Sugar of Milk; Fr., Pr., alcoholic and from the root.)

Dose.—2 to 8 grs.

Not Officinal.

SUCCUS. Aconite Herb juice, 3; Rectified Spirit 1: mix.

Dose.—15 to 20 minims.

ROOT.

The root collected during winter and dried, or imported from Germany. (Lond. Dub. Pr. and U. S. only.)

Medicinal Properties

Are the same as of the plant, but possessed in a stronger degree. Internally it lowers the pulse; externally, it relieves rheumatism.

Preparations.

LINIMENTUM.

Aconite Root, in powder, 20; Camphor, 1; Rectified Spirit to percolate, 20: moisten the root seven days, then pack in a percolator, and add sufficient Rectified Spirit to produce with the Camphor 20. =(1 in 1).

A new preparation.

Applied with a camel's-hair pencil, alone or mixed, in equal proportions, with soap liniment or compound camphor liniment, and rubbed on the part.

TINCTURA.

Powdered root, 1; Rectified Spirit to percolate, 8: macerate for forty-eight hours with three-fourths of the spirit, agitating occasionally, pack in a percolator and let it drain, then pour on the remaining spirit; when it ceases to drop, wash the marc with spirit to make up 8. =(1 in 8).

(Same as Pr. This tincture is one-third the strength of Lond.; one-fourth of Dub.; one-sixth of Fleming's tincture; U. S. 1 in 2½; Austr. Belg. Fr. made with leaves; not in Edin.)

Dose.—10 to 15 minims twice or thrice a day.

It is said by Dr. Fleming to be less likely to irritate the bowels than the extract.

ACONITIA.—*See* ACONITIA.

Not Officinal.

EXTRACTUM ACONITI RAD. ALCOHOLIC. Same as present Prussian. Dose ½ gr. LISTON'S STRONG TINCTURE and FLEMING'S TINCTURE will doubtless be superseded by the Linimentum, and if this is mixed with lard in the proportion of 2 drms. to 1 oz. of lard, it may answer all the purposes of the very expensive preparation of Aconitine ointment.

Not Officinal.

ACTÆA RACEMOSA.

TINCTURA.

Bruised Root, 1; Proof Spirit, 4: macerate fourteen days.

Medicinal Properties.—Given internally for neuralgia and rheumatism.

Dose.—30 to 60 minims.

ADEPS PRÆPARATUS.

PREPARED LARD.

Syn. AXUNGIA, *Edin.*

Hog's fat deprived of its membranes, and purified by heat.

Soluble entirely in Ether; melts at 100° F. Lard is not adulterated as a

rule, but it is frequently prepared with little care, and consequently bad in colour and odour. It is the basis of several ointments; and should be freshly prepared from flare of recently-killed pork, the membrane being first carefully picked out. It is then liquefied over a water-bath at a boiling heat, strained, and again heated until bright and entirely free from water. (*No salt to be added.*) It is apt to grow rancid by keeping, and even becomes mouldy if it contains water.

Medicinal Properties.

Emollient. Added to poultices to prevent their drying and sticking to the skin. Used also in scabies, and to destroy pediculi.

(In all the former and foreign Pharmacopœias.)

Preparation.

UNGUENTUM SIMPLEX.

Prepared Lard, 3; White Wax, 2; Almond Oil, 3: melt together.

This formula is also given under CERA ALBA at p. 65, and is there compared with other Pharmacopœias.

Not Officinal.

ADEPS BENZOATUS is much prescribed, and is made by heating 16 oz. Lard with 1 oz. Benzoin in coarse powder, for two hours.—U. S.

ADEPS ODORIFERUS, made by mixing Lard and Magnolia Pomade, in equal weights.

ADEPS OXYGENATUS is made by heating 8 of Lard with 1 Nitric Acid, sp. g. 1·500, added by degrees, and stirring till nitrous gas is given off, then remove from the fire and continue the stirring until it solidifies. Useful to dilute Citrine ointment; for when Lard is used it reduces the mercury, and thereby destroys the lemon colour of the ointment. It is, however, found too hard for use in cold weather, and is then better prescribed with half its amount of Almond Oil.

A good Substitute for Lard is—

LINIMENTUM SIMPLEX (Edin.).—Wax, 1; Olive Oil, 4; liquefied together. This does not become rancid for many months.

A mixture of Cacao butter and the best Olive Oil, in equal weights, keeps longer free from rancidity perhaps than any other substitute for lard, and is preferable to it for preparing Zinc Ointment.

Kokum Oil and Oil of Almonds, in equal weights, forms another good substitute and keeps remarkably sweet. (Olive Oil will not answer.)

ÆTHER.

ETHER.

Syn. ÆTHER SULPHURICUS, *Edin. Dub.*

Oxide of Ethyl, C_4H_5O, eq. 37, with about 8 per cent. of rectified spirit.

Solubility in water, 1 in 10; freely in rectified spirit. It should be diluted with spirit before being administered, it then mixes freely with water.

(Same as Edin. Lond. and Dub., sp. g. ·750; Belg. ·740; Austr. and Fr. ·730; Pr. ·728; U. S. ·728.)

Test.—Sp. g. ·735. 50 measures agitated with an equal volume of distilled water, are reduced to 41 by an absorption of 18 per cent., Brit. Ph. This is an error; the author finds that only 12, instead of 18 per cent., are absorbed of Ether, sp. g. ·735. It scarcely reddens litmus; agitated with half its volume

of a saturated solution of Chloride of Calcium, it is not lessened in bulk. Indicating absence of acid and water.

Characters and Properties.

It is colourless, of a strong and sweet odour, hot and pungent in taste. It evaporates speedily in the open air with the production of considerable cold. When good, it evaporates from the hand without leaving a disagreeable odour. Its vapour is very dense and very inflammable. It dissolves Iodine and Bromine freely; Sulphur and Phosphorus sparingly. It dissolves Corrosive Sublimate freely, and if Ether be boiled with Calomel contaminated with it, decanted and evaporated, the crystals of corrosive sublimate are left. It is also a solvent of the volatile and fixed oils, many resins and balsams, tannic acid, caoutchouc, and most of the organic vegetable alkaloids. It does not dissolve Potash and Soda, in which respect it differs from Alcohol. Water dissolves a tenth of its volume of Ether, and reciprocally Ether takes up about the same proportion of water. When water dissolves more than a tenth of its volume, the Ether contains water or Alcohol or both. Ether unites in all proportions with Alcohol.

Note.—Methylated Ether leaves an odour after it has evaporated.

Medicinal Properties.

It is a powerful, diffusible stimulant, expectorant, antispasmodic, and narcotic. Used to expel flatus from the stomach, and to allay pain and cramp in that organ. In nausea it is given as a cordial. It was formerly used for inhalation, and is still preferred by some to chloroform as an anæsthetic.*

Dose.—20 to 40 minims.

Contained in Collodion and Linimentum Cantharidis.

Preparation.

SPIRITIS ÆTHERIS. Called HOFFMAN'S ANODYNE SPIRIT. Sp. g. ·809.

Ether, 1; Rectified Spirit, 2. =(1 in 3).

(Same as Edin.; Dub. Spiritus Ætheris Oleosus; Lond. and U. S. Spiritus Ætheris Compositus, with Æthereal Oil; Belg., Æther Sulphuricus Alcoholicus, sp. g. ·795; Pr. sp. g. ·812; Austr. sp. g. ·820; Fr. equal weights.)

Dose.—30 to 60 minims.

Prescribed with camphor-water, and frequently with sal volatile or volatile tincture of valerian.

Contained in Tinctura Lobeliæ Ætherea.

ÆTHERIS NITROSI SPIRITUS.

SPIRIT OF NITROUS ETHER.

SWEET SPIRITS OF NITRE.

Nitrous Æther, C_4H_5O, NO_3, eq. 75, dissolved in rectified spirit.

Nitrite of Soda, 5; Sulphuric Acid, 4; Rectified Spirit, 40. Introduce

* The Author devised the first apparatus for the inhalation of Ether, which he has presented to the Museum of University College. Mr. Liston performed the first capital operation in this country with this apparatus; the patient not suffering the least pain, nor indeed, after the return of consciousness, could he be persuaded that his leg was off until he felt for it.

the Nitrite of Soda into a matrass connected with a condenser, pour upon it the Spirit and the Sulphuric Acid previously mixed, and distil 35; the receiver being kept very cool.

Test.—Sp. g. ·843. When agitated with twice its weight of a concentrated solution of Chloride of Calcium, 1½ per cent. by volume of Nitrous Ether, separates and rises to the surface. When shaken up with Bicarbonate of Soda, it effervesces but feebly.

Medicinal Properties.

Stimulant, diaphoretic and diuretic; useful in dropsy and catarrh.

This often changes the colour of mixtures by its decomposition, especially when Iodide of Potassium is present.

(Lond. Sp. Ætheris Nitrici, sp. g. ·834, Edin. do. sp. g. ·847, Austr. sp. g. ·830; Dub. Sp. Æthereus Nitrosus; Fr. Esprit de Nitre Dulcifié, a mixture of Nitric Acid 1, Alcohol 3, both by weight; Belg. Æther Nitricus Alcoholicus, sp. g. ·850; U. S. sp. g. ·837; not in Pr.)

Dose.—½ drm. to 2 drms. in water.

The preparation will always be of uncertain strength, in consequence of the variable composition of the Nitrite of Soda made according to the Pharmacopœia. This substance is a mixture of Nitrate, Nitrite, Carbonate, and Caustic Soda, and will in no case fulfil the conditions laid down in the Pharmacopœia test. It will contain of Nitrite from 5 to 25 per cent. (never more), and the strength of the Spirit of Nitrous Ether will be influenced accordingly.

ALOE BARBADENSIS.

BARBADOES ALOES.

The juice of the leaf of the *Aloe vulgaris*, inspissated; imported from Barbadoes in gourds.

(In Lond. Edin. and U. S.; not in others.)

Solubility: in water, 75 per cent.

It is found by experiment that the aqueous extract is by far more active than is the resinous portion of Aloes; the Barbadoes Aloes containing a larger amount of this than the Socotrine is perhaps the reason why the Barbadoes is the most purgative. Thus, 2 grs. are equal to 3 of Socotrine.

Medicinal Properties.

Purgative, acting chiefly on the large intestine. Employed as an enema in dislodging ascarides from the rectum, also as a stimulating cathartic in the constipation of amenorrhœa.

(Lond. Edin. U. S.; not in others.)

Dose.—2 to 4 grs.

Contained in Pil. Cambogiæ Comp., Pil. Colocynthidis Comp., and Pil. Colocynthidis et Hyoscyami.

Preparations.

ENEMA ALOES BARBADENSIS.

Barbadoes Aloes, 40 grs.; Carbonate of Potash, 15 grs.; mucilage of Starch, 10 oz.: mix for one enema.

(Same strength as Lond.; not in others.)

EXTRACTUM ALOES BARBADENSIS.

Barbadoes Aloes, 1 lb., in small pieces, treated with 1 gallon of boiling water for twelve hours, and the clear liquor evaporated.

(Same as Lond.; not in others. 100 of Aloes yield 75 of extract.)

Dose.—1 to 3 grs.

PILULA ALOES BARBADENSIS.

Barbadoes Aloes, in powder, 2; hard soap, 1; oil of Caraway, ⅛; Confection of Roses, 1. =(1 in 2).

(50 per cent. stronger than Pil. Aloes cum Sapone, Lond., which was made with the *Extract*, and represented the Pil. Aloes Diluta of Dr. Marshall Hall. Not in other Pharmacopœias.)

A new preparation.

Dose.—4 to 8 grs.

Not Officinal.

ALOINE.—A yellow crystalline substance, obtained from Aloes.

Dose.—1 to 2 grs. in pill.

ALOE SOCOTRINA.

SOCOTRINE ALOES.

The juice of the leaf of one or more undetermined species of Aloe, inspissated; usually imported in skins and casks from Socotra.

Solubility in water, 50 per cent.

Medicinal Properties.

Purgative. Give in mesenteric disease and distended bowels: said to aggravate hæmorrhoids. Although the purgative property acts chiefly on the lower portion of the intestinal canal, it produces on the upper part tonic and stomachic effects, when small doses only are given. One grain, with ⅛ gr. Extract of Nux Vomica, is an excellent pill for this purpose, and to relieve chronic dyspepsia. Aloes, combined with Rhubarb and Scammony, where there is a defective secretion of bile; with iron and myrrh for amenorrhœa.

(In all the Pharmacopœias; Austr. Belg. Aloe Lucida; Pr. Aloe Capensis.)

Dose.—3 to 6 grs.

Contained in Extractum Colocynth. Co., Pil. Rhei Co., and Tinct. Benzoini Co.

Preparations.

DECOCTUM ALOES COMPOSITUM.

Extract of Socotrine Aloes, 90 grs.; Myrrh, bruised, 60 grs.; Saffron, chopped fine, 60 grs.; Carbonate of Potash, 40 grs.; Extract of Liquorice, ½ oz.; Compound Tincture of Cardamoms, 4 fluid oz.; distilled water, a sufficiency: triturate the Aloes, Myrrh, and Carbonate of Potash together; add the Saffron and Extract of Liquorice, and boil in 14 oz. of water for ten minutes in a covered vessel. Cool, and strain through flannel, and add the Tincture of Cardamoms, with as much water as may be necessary to make up the quantity to 16 fl. oz. =(1 in 85).

(Lond. 1 in 144; Edin. 1 in 128; Dub. 1 in 93,—nearly same as Dub., 50 per cent. stronger than Edin., and 70 per cent. stronger than Lond.; 16 oz. Ph. Brit. being equal (as to the Aloes) to 27 oz. of Lond., there is relatively less Liquorice than in the Lond., and the British Pharm. preparation is consequently much more bitter; not in other Pharmacopœias.)

Dose.—3 to 10 drms. as a mild cathartic, tonic, and antacid. Known to the public as the Baume de Vie.

ENEMA ALOES SOCOTRINÆ.

Socotrine Aloes, 40 grs.; Carbonate of Potash, 15 grs.; mucilage of Starch, 10 oz.: mix for one enema.

As an anthelmintic 3 to 4 ounces only should be used.

(Lond. only.)

EXTRACTUM ALOES SOCOTRINÆ.

Socotrine Aloes, 1 lb.; treated with 1 gallon of boiling water for 12 hours, and the clear liquor evaporated.

(In all the Pharmacopœias except Edin.) 160 of Aloes yield 50 extract.

Dose.—1½ to 3 grs.

The extract being more active than the Aloes, a smaller pill can be given, and it has the advantage of acting more pleasantly.

PILULA ALOES SOCOTRINÆ.

Socotrine Aloes in powder, 2; Powdered Hard Soap, 1; Volatile Oil of Nutmeg, ⅛; Confection of Roses, 1. =(1 in 2).

(Lond. 1 in 3, Belg. 1 in 2, Pil. Aloes cum Sapone; U. S. 1 in 2; Edin. Pil. Aloes, 1 in 2½; not in others.)

Dose.—5 to 10 grs.

PILULA ALOES ET ASSAFŒTIDÆ.

Socotrine Aloes in powder, 1; Assafœtida, 1; Powdered Hard Soap, 1; Confection of Roses, 1. =(1 in 4).

(Same as Edin.; U. S. 1 in 3, omitting Conf. Rosæ; not in others.)

Cathartic and antispasmodic.

Dose.—5 to 10 grs.

PILULA ALOES ET MYRRHÆ.

Socotrine Aloes, 2; Myrrh, 1; Dried Saffron, ½; Confection of Roses, 2½ = (1 in 3).

(About the same as Edin.; Lond. and Dub. with Treacle instead of Conf. Roses; not in others.)

Stimulant and cathartic.

The formula is very old. It was called Pil. Ruffi two hundred years ago.

Dose.—5 to 10 grs.

TINCTURA ALOES.

Socotrine Aloes, 1; Extract of Liquorice, 3; Proof Spirit, 40: macerate seven days, press, and wash the marc with spirit to make 40. =(1 in 40).

(Same as Lond. and Edin.; U. S. 1 in 30; Austr. and Belg. 1 in 6; Fr. 1 in 4½; Pr. 1 in 7¾, with Rectified Spirit and without Liquorice.)

Dose.—1 to 3 drms.

VINUM ALOES.

Aloes, 1½ oz.; Ginger, 80 grs.; Cardamoms, 80 grs.; Sherry, 40 oz.; digest seven days and strain. =(1 in 26¾).

Proportions: Aloes 8, Ginger 1, Cardamoms 1, Sherry 214.

(Nearly as Edin.; Lond. 1 in 20, with Canella; U. S. 1 in 16½; not in others.)

Dose.—1 to 2 drms.

ALUMINIUM.

ALUMINUM.

Al; eq. 13·75.

A silver-white metal, sonorous, unalterable in the air, and lighter than glass, having the sp. g. 2·560.

Indicated by Sir Humphry Davy in 1808; made by Wöhler by decomposing its chloride with Sodium in 1828, and first produced in ingots by M. Deville in 1854. It resists the action of Nitric and Sulphuric Acids, but is readily attacked by Hydrochloric Acid. Its oxide, being identical with Sapphire, forms an impermeable crust on the surface of the metal, and protects it from further action of the air. Its use is limited at present to jewellery, but, from its extreme lightness and tenacity, it promises to be much more extensively employed.

Neither Aluminium nor Alumina is in the British Pharmacopœia. Alumina, however, is much used to fine turbid medicinal waters, or other solutions, and is easily obtained by adding in excess a solution of Carbonate of Potash to a solution of Alum, and well washing the precipitate.

Roche Alum is scarcely ever used.

ALUMEN.

ALUM.

Sulphate of Alumina and Potash, $Al_2O_3, 3SO_3 + KO, SO_3 + 24HO$; eq. 474·5.

Alum is produced by the combustion of Alum Schist, and subsequent exposure to air, and by the addition of Sulphate of Potash.

In colourless transparent crystalline masses, exhibiting the faces of the regular octahedron.

Solubility in boiling water, 10 in 8; in cold water, 1 in 12. Insoluble in rectified and proof spirit.

Test.—Entirely soluble in hot solution of Soda without evolving Ammonia. Not coloured blue by a mixture of the Ferrocyanide and Ferridcyanide of Potassium. Indicating absence of ammonia and of iron.

A great deal of Alum is a sulphate of alumina and ammonia; the above test is given to ensure the Potash compound, which is now difficult to obtain.

Medicinal Properties.

Astringent, given internally in ten-grain doses; purgative in drachm doses; emetic in repeated doses.

Prescribed in syrup or treacle, 15 grs. three times a day for internal hæmorrhage; has been known to succeed in bleeding from the kidney, when gallic acid has failed; may be combined with kino, etc.; also used as a gargle for relaxed throat; or for an injection in leucorrhœa, etc., 1 to 2 drms. in 6 oz. of water; as a lotion for the eyes in children or adults when there is mucus or purulent matter,—1 to 3 grs. in 1 oz. of water.

Dose.—10 to 15 grs.; a teaspoonful in honey or treacle for an emetic.

Preparation.

ALUMEN EXSICCATUM. *Syn.* ALUMEN USTUM.

Heat the Alum in a porcelain capsule till it liquefies; raise and continue the heat till aqueous vapours cease to be disengaged, and then reduce the residue to powder.

100 parts of Alum yield 55 parts of dried Alum.

For external use only. Escharotic, used to remove fungous flesh.

(In all the Pharmacopœias.)

Not Officinal.

ALUM CATAPLASM.—Alum, 60 grs.; the whites of two eggs.

ALUM GARGLE.—Alum, 1; honey, 2; water, 6. Mix. Middlesex Hospital.

ALUM WHEY.—Alum, 120 grs. in a pint of milk.

IRON ALUM, composed of Sulphate of Iron and Ammonia, is especially useful in bleeding from the kidneys; it arrests the hæmorrhage and remedies the anæmia that accompanies it.

AMMONIUM.

AMMONIUM.

NH_4; eq. 18.

Ammonium is the name given to the hypothetical compound metallic base of the Ammonia Salts. It has never been isolated, and it does not seem to be able to exist in an uncombined state.

The reasons for assuming its existence are many. It is capable of replacing the simple metals in most of their combinations, and its compounds present many analogies to those of Potassium. It also forms, under certain circumstances, a very bulky amalgam with Mercury, which, however, soon breaks up into Mercury, Ammonia, and Hydrogen. Its oxide, NH_4O, does not appear to have been separated; but Hofmann has obtained several bodies having exactly this composition, in which all the atoms of Hydrogen are replaced by certain organic radicals. These bodies are almost as powerful alkalies as Potash itself, are free from odour, and furnish perhaps the best arguments in favour of the Ammonium theory.

The Ammonium Salts must for the most part be looked upon as Salts of Ammonium, in which this compound plays the part of a metal, and on the account the terms Chloride of Ammonium, etc., have been substituted for the old one, such as Muriate of Ammonia. The following formulæ will explain the change:—

Muriate of Ammonia,	Chloride of Ammonium,
NH_3HCl.	NH_4Cl.

Not Officinal.

IODIDE OF AMMONIUM.—Similar in action to the Iodide of Potassium, but more active.

Dose.—2 to 5 grs.

BROMIDE OF AMMONIUM.—Given for whooping cough.

Dose.—3 to 10 grs.

Used as a gargle for relaxed larynx: 5 grs. to 1 oz. water.

BROMIDE OF AMMONIUM LOZENGES.—2 grs. in each lozenge.

AMMONIA.

AMMONIA.

This important compound is chiefly produced artificially, but it exists in some volcanic products, and is discoverable in sea-water. It is found also in putrid urine and in the salts produced by the decomposition of animal matter.

Its history in the form of Sal Ammoniac is very ancient. This salt was manufactured in very early times from camels' dung, from which it was obtained by sublimation. The process was chiefly conducted in the neighbourhood of the temple of Jupiter Ammon in Egypt, and to this circumstance it owes its name; it was afterwards obtained either from putrid urine or by the destructive distillation of animal substances.

The chief source at present is the liquor from the gas-works, but the Ammonia produced in this way is apt to contain impurities, particularly the organic bases known as "the compound Ammonias."

The purest form of Ammonia is that obtained as a by-product in the manufacture of Borax. The Boracic Acid of Tuscany, when saturated with Soda, evolves very considerable quantities of pure Ammonia, and the Liquor Ammoniæ and Carbonate of Ammonia, produced in this way, are sold under the names of Volcanic Ammonia, and are to be preferred to all others.

The whole of the Preparations of Ammonia are here grouped.

AMMONIÆ ACETATIS LIQUOR.

SOLUTION OF ACETATE OF AMMONIA. MINDERERUS SPIRIT.

Acetate of Ammonia, $NH_4O,C_4H_3O_3$, eq. 77, dissolved in water.

Strong solution of Ammonia (sp. g. ·891), 7; Acetic Acid (sp. g. 1·044), 20, and measures 26.

(One-fifth weaker than Pr., *five times stronger* than Lond., *six times* stronger than Edin. Dub. and U.S.; four times stronger than Fr.; three times stronger than Belg. Sp. Mindereri; twice the strength of Austr. Liquor Concentr.; and ten times that of Liquor Dil.)

Test.—Sp. g. 1·060. Should be made with Volcanic Ammonia, and rendered neutral to test-paper by the addition of either ingredient.

Medicinal Properties.

Diaphoretic and refrigerant. Internally, it increases the secretion by the skin and kidneys, therefore useful in febrile and inflammatory diseases, and in dysmenorrhœa. Externally, in the proportion of 1 to 40 water, as a collyrium in chronic ophthalmia.

Dose.—15 to 60 minims.

Liq. Ammon. Acet. P.L. is still prescribed. Dose: 1 to 4 drachms.

AMMONIÆ BENZOAS.

BENZOATE OF AMMONIA.

$NH_4O,C_{14}H_5O_3+HO$; eq. 148.

In colourless laminar crystals.

Solution of Ammonia, 3; Benzoic Acid, 2; Distilled water, 8: dissolve and evaporate to crystallization.

When $3\frac{1}{2}$ of Ammonia is used it makes a neutral salt.

Solubility in water,* 1 in 60; in Rectified Spirit, 1 in 12; of the neutral salt, 1 in 5 of water.

A new preparation.

Test.—When heated, it sublimes without residue.

Medicinal Properties.

Diuretic, employed in dropsy, and in gout when chalk stones are deposited near the joints. It is more soluble than Benzoic Acid, and therefore acts more quickly. Is valuable in catarrhus vesicæ with alkaline urine, also in cases of phosphatic deposit. Benzoic Acid, when taken into the body, appears to take up Glycocol and form Hippuric Acid. The Ammonia does not, like Potash and Soda, pass through the kidneys.

Dose.—10 to 20 grs. in water.

AMMONIÆ CARBONAS.

CARBONATE OF AMMONIA.

Sesquicarbonate of Ammonia, $2NH_4O,3CO_2$; eq. 118.

In translucent crystalline masses.

Sublimed from a mixture of Chalk and Sal Ammoniac.

Solubility in water 1 in 4; in spirit, sparingly.

Test.—50 grains are exactly neutralized by 84·74 measures of the volumetric solution of Oxalic Acid; 15 grains are neutralized by 17 grains of Citric Acid. Volatilizes entirely when heated.

Medicinal Properties.

Antacid, stimulant, sudorific, and expectorant. Frequently combined with Ipecacuanha in bronchitis. Rarely as an emetic in $\frac{1}{2}$ drm. doses.

(In all the Pharmacopœias. Edin. and U.S. Am. Carb.; Lond. and Dub. Am. Sesquicarb.; Austr. Belg. Pr. Ammoniacum Carbonicum; Fr. Carbonate d'Ammoniaque.)

Dose.—3 to 10 grs.

Preparations.

SPIRITUS AMMONIÆ AROMATICUS. Sp. Sal Volatile. Sp. g. ·870.

Carbonate of Ammonia, 8 oz.; strong solution of Ammonia, 4 oz.; Volatile Oil of Nutmeg, 4 drms.; Oil of Lemon, 6 drms.; Rectified Spirit, 6 pints; Water, 3 pints: distil 7 pints.

Or in parts, thus:—16, 8, 1, $1\frac{1}{2}$, 240, 120: distil 280.

This is a great improvement on the London process; it contains a larger quantity of Carbonate of Ammonia, and does not change in colour by keeping: moreover, it has a most agreeable flavour, and is in the most preferable form as an antacid.

(Edin. and Dub. a solution of pure Ammonia; U. S. with Carbonate and double the quantity of pure Ammonia; Belg. a mixture; Fr. Alcoolatum Aromaticum Ammoniacale, with Carbonate; not in others.)

A domestic remedy for nervous headache, combined with Spirit of Chloroform.

Dose.—20 to 60 minims in camphor water.

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* The neutral salt is more soluble; the acid salt is that generally met with.

Not Officinal.

LIQUOR VOLATILIS CORNU CERVI.—Saturated Solution of Carbonate of Ammonia of the old Pharmacopœias, distilled from Hartshorn.

AMMONIÆ HYDROCHLORAS.

HYDROCHLORATE OF AMMONIA.

NH_4Cl; eq. 53·5.

In colourless inodorous translucent fibrous masses, tough, and difficult to powder.

Solubility in water, 1 in 3.

Test.—When heated, it volatilizes without decomposition, and leaves no residue.

Medicinal Properties.

Expectorant in chronic bronchitis, alterative in rheumatism, scrofulous and syphilitic enlargement of the glands; useful in many cases of neuralgia. Externally as a stimulant and resolvent in indolent tumours.

(In all the Pharmacopœias; Ammoniæ Murias, Edin. Dub.)

Prescribed in powders or in solution.

Dose.—10 to 15 grs., in a large wineglass of cold water, frequently repeated, allays distressing fits of coughing in bronchitis. For lotions, 1 oz., with 1 oz. rectified spirit and 10 oz. water: vinegar is sometimes added.

AMMONIÆ LIQUOR FORTIOR.

STRONG SOLUTION OF AMMONIA.

Ammoniacal Gas, NH_3, dissolved in water, contains 32·5 per cent.

Test.—Sp. g. ·891. 1 fluid drachm requires for neutralization 102 measures of the volumetric solution of Oxalic Acid. When diluted with four times its volume of Distilled Water it does not give precipitates with solution of Lime, Oxalate or Hydrosulphuret of Ammonia, or Ammonio-Sulphate of Copper, and when treated with an excess of Nitric Acid is not rendered turbid by Nitrate of Silver or by Chloride of Barium. Indicating freedom from carbonates, Lime, metals, sulphides, chlorides, and sulphates.

(Lond. sp. g. ·882, 30 per cent.; Edin. ·880, 30 per cent.; Dub. and U. S. ·900, 26 per cent.; Belg. Ammonia Liquida, ·935, 17 per cent.; Fr. Ammoniaque Liquide, ·923; not in others.)

Best given in the form of Liq. Ammoniæ.

Preparations.

LINIMENTUM AMMONIÆ.

Solution of Ammonia, 1; Olive Oil, 3: mix. =(1 in 4)

A counter-irritant.

(Same as Dub.; Lond. and Edin. are stronger, 1 in 3, Fr. 1 in 9; Pr. and Austr. 1 in 5; Belg. 1 in 10, Fort. 1 in 5; U. S. 1 in 3.)

LIQUOR AMMONIÆ. SOLUTION OF AMMONIA. Sp. g. ·959.

Strong solution of Ammonia, 1; Water, 2: mix. =(10·8 per cent.)

Stimulant antacid and antispasmodic; relieves nervous headache, and is useful in pneumonia, bronchitis, and dyspepsia. Counteracts the after-effects of alcohol and delirium tremens. Stimulant in low states of the system, as typhoid forms of fever. Externally (applied to the nostrils) in syncope. On the skin it is a powerful rubefacient, and as an embrocation, a counter-irritant in pains and stiffness of joints, etc.

(Sp. g. Lond. Edin. ·960; Dub. ·950; Austr. Ammonia Pura Liquida, ·960, 10 per cent.; Pr. Ammoniacum Causticum Solutum, ·960, 10 per cent.; U.S. Aqua Ammoniæ, ·960;—Belg. and Fr. Liq. Amm. Fort only.)

Dose.—10 to 20 minims in some bland fluid.

Contained in Linimentum Camphoræ Compositum.

Not Officinal.

Eau de Luce.—Tinct. Ammon. Comp. P.L. Stimulant, antispasmodic.

Dose.—5 to 10 minims.

AMMONIÆ PHOSPHAS.

PHOSPHATE OF AMMONIA.

$3NH_4O, PO_5 + 5HO$; eq. 194.

In colourless transparent prisms which, upon exposure to air, lose Water and Ammonia, and become opaque.

Solubility in water, 1 in 2; insoluble in Rectified Spirit.

Strong solution of Ammonia, 8; diluted Phosphoric Acid, 20; dissolve by a gentle heat and crystallize.

Test.—If 20 grains be dissolved in water, and the solution of Ammonio-sulphate of Magnesia be added, a crystalline precipitate falls, which, when well washed upon a filter with solution of Ammonia diluted with an equal volume of water, dried, and heated to redness, leaves 11·44 grains. The crystalline precipitate is the Ammonio-phosphate of Magnesia, and when this is heated to redness the Ammonia is driven off, and the Phosphate of Magnesia is left.

A new preparation.

(Belg.; not in other Pharmacopœias.)

Medicinal Properties.

Given in gout and rheumatism to render the urates of soda and lime soluble. Of great value in cases of Uric Acid calculus.

Dose.—10 to 20 grs. 3 or 4 times a day in water.

AMMONIACUM.

AMMONIAC.

A gum-resinous exudation from the stem of *Dorema Ammoniacum*, in tears and masses. Collected in Persia and the Punjaub.

Contained in Emplastrum Galbani, and in Pilula Scillæ Composita.

Medicinal Properties.

Antispasmodic. Stimulant, expectorant in chronic catarrh, bronchitic affections, and asthma, either in mixture or in pill.

(In all the Pharmacopœias.)

Dose.—10 to 20 grs.

Preparations.

EMPLASTRUM AMMONIACI CUM HYDRARGYRO. *See* HYDRARGYRUM.

As the value of this preparation depends chiefly upon the Mercury it contains, the formula is given under Hydrargyrum.

MISTURA.

Ammoniac, ¼ oz., rubbed down with water 8 oz. =(1 in 32).

(Same as Lond. Dub. and U. S.; not in others.)

Dose.—½ to 1 oz. as an expectorant; may be combined with 15 minims of Tincture of Squills.

AMYGDALA.

JORDAN ALMONDS.

The seed of the *Amygdalus communis*, from trees cultivated about Malaga.

Test.—Not bitter nor evolving the odour of Bitter Almonds when bruised with water.

Medicinal Properties.

Demulcent; useful in catarrhal affections. Dr. Pavy has proposed as a substitute for bread or starchy food for diabetic patients, cakes made of Sweet Almonds, and these are at present sold.

(Both Bitter and Sweet Almonds are contained in all other Pharmacopœias.)

Preparations.

MISTURA.

Compound powder of Almonds, 1; water, 8: triturate and strain. =(1 in 8).

A vehicle for cough medicines.

(Same as Lond. and Dub.; Edin. 1 in 20; U. S. 1 in 9; not in others.)

Dose.—1 to 3 oz.

OLEUM.

The oil obtained by pressure from either Bitter or Sweet Almonds.

Dose.—2 to 4 drms.

Contained in Unguentum Cetacei; Unguentum Simplex (*see* ADEPS). Used in preference to Olive Oil, as it makes a whiter Ointment.

(In all the Pharmacopœias.)

PULVIS COMPOSITUS.

Blanched Jordan Almonds, 8: Refined Sugar, 4; Gum Arabic, 1: rub the almonds into a paste, then add the sugar and gum previously mixed.

Dose.—60 to 120 grs.

A new name to an old preparation.

(Lond. Confectio Amygdalæ; Edin. Conserva Amygdalarum; not in others.)

Not Officinal.

MISTURA AMYGDALÆ AMARÆ.—Made in the same proportions as Mistura Amygdalæ.

Useful in cough, and as a lotion to allay itching of the skin. It was a favourite vehicle for giving tartarized Antimony, in doses of ¼ grain, to subdue inflammatory

action of the lungs and relieve cough. As the mixture contains a variable amount of Prussic Acid, its use requires caution.

AMYLUM.

WHEAT STARCH.

Starch procured from the seed of common wheat. In white columnar masses, which become blue with a solution of Iodine.

Medicinal Properties.

Demulcent.

A good substitute for soap and water to the face and hands, when affected by cutaneous eruptions. In the form of violet powder, which is merely scented starch, it is useful to prevent the low inflammation that may be caused by the chafing of the skin of fat infants.

(In all the Pharmacopœias; Fr. Amidon.)

Preparation.

MUCILAGO.

Starch, 1; distilled water, 40: boil for a few minutes.

Used in enemas, either in large quantity as a vehicle for purgatives, or in small quantity for sedatives and astringents, which are to be retained and absorbed. As an enema *per se*, it is soothing and slightly astringent, and is useful in typhoid fever, when the object is rather to regulate than arrest the diarrhœa. It is used extensively to stiffen bandages for fractures, etc.

(Same as Lond. and Edin.; Dub. 1 in 20; Belg. 1 in 25; not in others; Lond. and Belg. Decoctum.)

Not Officinal.

AMYLUM IODATUM, *Belg.*—Iodine, 1; Starch, 10; Alcohol, 10. Dissolve the Iodine in the Alcohol: mix gradually the starch by rubbing in a glass mortar; moisten the mixture with a little cold water, place it in a bolt-head surrounded by hot water for two or three hours, shaking occasionally; when cold wash with weak alcohol, and dry with gentle heat.

PLASMA.—Heat 60 grs. of Starch with 1 oz. of Glycerine, constantly stirring until it becomes thick.

ANETHUM.

DILL.

The fruit of *Anethum graveolens*, cultivated or imported.

Medicinal Properties.

Stimulant, aromatic, and carminative: chiefly given to children in cases of flatulency.

(Lond. and Edin.; Fr. Aneth; not in others.)

Preparations.

AQUA.

Bruised fruit, 1; water, 16: distil, 8. =(1 in 8)

(Same as Lond. and Edin.; not in others.)

Dose.—½ to 1 oz.

OLEUM.

The oil distilled in England from the fruit. Sp. g. ·977 to ·990.

(Lond.; not in others.)

Dose.—1 to 4 minims, on sugar.

ANISI OLEUM.

OIL OF ANISE.

The oil distilled in Europe from the fruit of the *Pimpinella Anisum*, or from the fruit of the *Illicium Anisatum*, imported from China.

Test.—Concretes at 50° F.

Medicinal Properties.

Stimulant, aromatic, and carminative: used to relieve flatulence, and to diminish the griping of purgative medicines.

(In all the Pharmacopœias except Edin. and Fr.)

Dose.—1 to 4 minims, on sugar.

Contained in Tinctura Camphoræ c. Opio.

ANTHEMIS.

CHAMOMILE FLOWERS.

The flowers of the *Anthemis nobilis*, single and double, dried.

Medicinal Properties.

Tonic, aromatic, and stomachic. In large doses, emetic. Useful in atonic dyspepsia.

(In all the Pharmacopœias.)

Preparations.

INFUSUM.

Chamomile Flowers, ½ oz.; boiling water, 10 oz.: infuse for fifteen minutes. =(1 in 20).

Dose.—As a stomachic, 1 to 3 oz., as an emetic, 5 to 10 oz.

(Dub. 1 in 24; Lond. and Edin. 1 in 32; not in others.)

EXTRACTUM.

Chamomile Flowers, 1 lb.; Oil of Chamomile, 15 minims; distilled water a sufficiency. Digest the Chamomile in 6 pints of water for twelve hours; pour off the clear liquor and press; again digest, and press as before. Evaporate the mixed liquors by a water bath to a proper consistence, adding the Oil of Chamomile at the end of the process.

(Same as Fr.; Edin. made with boiling water, without oil; Austr. with spirit; not in others.)

Dose.—1 to 5 grs.

OLEUM.

Distilled in England from the flowers.

(In all the Pharmacopœias except Edin. Dub. U. S.)

Dose.—2 to 4 minims.

Stimulant and carminative. Prescribed in pills with rhubarb or other powder.

ANTIMONIUM.

ANTIMONY.

Sb; eq. 122.

Of a silvery-white colour, brittle and crystalline.

This metal rarely occurs native, but generally as the black sulphuret, the Stibium of the ancients. It was first made known in the metallic state by Basil Valentine towards the end of the fifteenth century. It is prepared on the large scale by roasting the sulphuret (mixed with charcoal to prevent caking) until it is converted into oxide, which is then reduced by means of charcoal and carbonate of potash. It is extensively employed in the manufacture of type metal and the alloy known as Britannia metal. It melts at about 800° F., and as the ingot cools its surface has a beautiful stellated appearance; the alchemist considered this star as a mysterious guide to the secrets of transmutation. It is volatile at a white heat.

ANTIMONII OXIDUM.

OXIDE OF ANTIMONY.

Teroxide of Antimony, SbO_3; eq. 146.

A white powder, fusible at a low red-heat.

Prepared by decomposing a solution of Terchloride of Antimony with Carbonate of Soda.

Test.—Does not yield any sublimate when fused in a test-tube; dissolves entirely when boiled with an excess of Acid Tartrate of Potash. Indicating absence of Arsenic, and other impurities.

Medicinal Properties.

Diaphoretic. Less active than the tartrate.

Dose.—2 to 5 grs. in a pill.

(Same as Edin. Dub. U. S. and Fr.; Belg. Antimonium Depuratum; Austr. Antimonium Oxidatum; Pr. Stibium Oxydatum; not in Lond.)

Preparation.

PULVIS ANTIMONIALIS.

Oxide of Antimony, 1; precipitated Phosphate of Lime, 2: mix=(1 in 3).

Dose.—5 to 10 grs.

A new preparation.

(Lond. Edin. Belg. and Fr. by calcination; Dub. by precipitation; not in Pr. and Austr.)

Introduced as a substitute for the celebrated James's Fever Powder. The analyses which have been made from time to time of James's Powder do not indicate anything very mysterious in its composition. It appears to consist mainly of Antimonious Acid, Phosphate of Lime, and perhaps a little Oxide of Antimony. We cannot suppose that there is any chemical combination between the Phosphate of Lime and the Antimonious Acid. It is probably a mere mixture of the two, and if so, it is difficult to see what part the Phosphate of Lime plays in its medicinal action. It is by no means established that the patent medicine is superior to the preparation of the London Pharmacopœia, and it is a question whether some definite antimonial compound like the potassio-tartrate is not superior to such empirical mixtures as James's Powder and its imitations. It is surely only a relic of past ages to go on in this way. If the object be to imitate James's Powder, the preparation of the British Pharmacopœia is further off than ever, as it contains Oxide of Antimony, while Antimonious Acid makes up the bulk of the quack medicine. But it may perhaps be a better preparation, and might be better still if the Oxide of Antimony, a substance of perfectly definite composition, were made to take the place of these mixtures altogether.

ANTIMONII TERCHLORIDI LIQUOR.

SOLUTION OF TERCHLORIDE OF ANTIMONY.

Terchloride of Antimony, $SbCl_3$, eq. 228·5, dissolved in Hydrochloric Acid.

Prepared by boiling Sulphuret of Antimony in Hydrochloric Acid. Introduced chiefly for the purpose of preparing the Oxide of Antimony, and might therefore have been placed in the Appendix.

Test.—Sp. g. 1·470. 1 drm. mixed with a solution of ¼ oz. of Tartaric Acid in 4 oz. of water, forms a clear solution, which, if heated with Sulphuretted Hydrogen, gives an orange precipitate, weighing, when washed and dried at 212° F., at least 22 grs. (Golden Sulphuret of Antimony.)

(Same as Dub.; called Butyrum Antimonii in Austr. sp. g. 1·35; Belg. sp. g. 1·44; Beurre d'antimoine, Fr.; not in Lond. Edin. and U. S.)

Medicinal Properties.

A caustic; it usually acts without causing much pain or inflammation, and after the separation of the eschar forms a clean healthy ulcer. Sometimes applied to cancerous growths. Never used internally.

ANTIMONIUM SULPHURATUM.

SULPHURETTED ANTIMONY.

Tersulphuret of Antimony, SbS_3, an orange-red powder, with a small and variable amount of Teroxide of Antimony, SbO_3.

A bright orange or golden-red powder, without odour and with a slight taste.

Insoluble in water, readily dissolved in caustic Soda; also in Hydrochloric Acid.

Test.—60 grains dissolved in Hydrochloric Acid, and dropped into water, give a white precipitate which, when washed and dried, weighs about 53

grains (Oxychloride of Antimony). When heated with 12 times its weight of Muriatic Acid (sp. g. 1·170) with the aid of heat, it is nearly all dissolved, with the evolution of Sulphuretted Hydrogen. Exposed to heat, it takes fire, and burns with a greenish-blue flame, giving off sulphurous gas; the metal remains as a greyish oxide.

(Lond. Antimonii Oxysulphuretum; Edin. Antimonii Sulphuretum Aureum; Dub. Antimonii Sulphuretum Præcipitatum; U. S. Antimonium Sulphuratum; Fr. Austr. Belg. Pr. Stibium Sulphuratum Aurantiacum.)

Medicinal Properties.

Alterative, diaphoretic, and emetic; uncertain in action from its slight solubility, depending on the acidity of the stomach. Usually prescribed with Calomel and Guaiacum, as in Pilula Calomelanos Composita, for secondary syphilis and cutaneous eruptions; or with Henbane or Hemlock in chronic rheumatism.

Dose.—1 to 3 grs. in pill.

Contained in Pilula Calomelanos Composita.

ANTIMONIUM TARTARATUM.

TARTARATED ANTIMONY.

In colourless transparent crystals, exhibiting triangular facets.

Tartrate of Antimony and Potash, $SbO_3,KO,C_8H_4O_{10}+2\,HO$; eq. 343.

A double salt, being a Tartrate of Antimony and Tartrate of Potash, with two equivalents of water.

Solubility: in cold water, 1 in 20; in boiling water, 1 in 2; partially soluble in proof spirit; insoluble in alcohol.

Oxide of Antimony, 5; Acid Tartrate of Potash, 6; distilled water, 40. Dissolve and crystallize.

Test.—20 grs. dissolves without residue in a fluid ounce of distilled water at 60° F., and the solution gives with Sulphuretted Hydrogen an orange precipitate which, when washed and dried at 212° F., weighs 9·91 grs. (Golden Sulphuret of Antimony.)

Medicinal Properties.

Diaphoretic, expectorant, depressant, and emetic. Relieves the chest in pneumonia and in bronchitis. In continued small doses it relaxes, and causes increased secretion from the mucous membranes and skin, and is a *depressant* to the whole vascular system.

As a febrifuge, it is given either in aqueous solution, or as Vinum or Pulvis Antimonialis. In repeated small doses it is used in midwifery in cases of rigidity of the os uteri, or heat and dryness of the passages.

Externally, in the form of ointment, it acts as a powerful irritant to the skin, producing a pustular eruption. Is used as a counter-irritant for children: it should, however, be applied with great caution, both on account of its highly irritant properties, and its liability to be absorbed into the system.

Dose.—As a diaphoretic, $\frac{1}{16}$ to $\frac{1}{8}$ gr.; as a depressant, $\frac{1}{8}$ to 2 grs.; as an emetic, 1 to 3 grs.

(Lond. Antimonii Potassio-Tartras; Edin. Dub. Belg. Antimonium Tartarizatum; Austr. Kali Stibiato-Tartaricum; Pr. Stibio-Kali Tartaricum; Fr. Tartrat de Potasse et d'Antimoine; U. S. Antimonii et Potassæ Tartras.)

Preparation.

UNGUENTUM.

Tartarated Antimony in fine powder, 1; simple ointment, 4: mix. =(1 in 5).

(Same as Lond. Ung. Antimonii Potassio-Tartratis; Edin. Ung. Antimoniale; and U. S.; Dub. Ung. Antimonii Tartarizati, 1 in 8; Fr. Pommade Stibiée, 1 in 4; Belg. Ung. Tartari Stibiati, 1 in 8; Austr. 1 in 5; Pr. Ung. Stibio-Kali Tartarici, 1 in 5.)

VINUM ANTIMONIALE.

Tartarated Antimony, 2 grs.; Sherry, 1 oz. =(1 in 240).

Note.—The Tartarated Antimony does not dissolve in the Sherry readily; it is better to dissolve it in about ten times its weight of hot water, and then add the wine.

Each fluid drachm contains ¼ gr.

(In all the Pharmacopœias, and of the same strength; Lond. Vinum Antimonii Potassio-Tartratis; Edin. Vinum Antimoniale; and U. S. Vinum Antimonii; Dub. Liq. Ant. Tartarizati, with weak spirit; Pr. Vinum Stibiatum, with white French Wine; Austr. V. Stibiato-Tartaricum; Belg. V. Antimoniatum; Fr. Vin Antimonié; the last three with Malaga wine.)

Dose.—15 to 60 minims as a diaphoretic in saline mixtures.

AQUA.

WATER.

The Pharmacopœia orders the purest Water that can be obtained, cleared, if necessary, by filtration. It must be remembered that water obtained in different localities varies much in respect to its purity, and that what is *actually dissolved* in it cannot be separated by filtration alone.

The purest water is from the Wenham Lake ice and the Norwegian ice. After these may be taken Distilled Water and snow-water. Rain-water contains about a millionth part of Ammonia, and probably about the same amount of Chloride of Sodium. The following table will show how great a difference exists in the quantity of Lime and saline matters dissolved in various natural waters:—

Loch Katrine, supplying Glasgow, contains			2	grs. in the gallon.
River Dee,	„	Aberdeen,	„ 4	„
„ Tay,	„	Perth,	„ 5	„
Water supplied to Liverpool			„ 5	„
Claremont water			„ 5·7	„
Farnham, in Surrey			„ 7·25	„
Thames, supplying London			„ 19 to 22, according to locality.	
Water supplied to Watford			„ 22·75	„
Spring water			„ 40 to 60	„
River Jordan			„ 75	„
Sea-water (sp. g. 1·028)			„ 1500 to 2000	„
Dead Sea water (sp. g. 1·211)			„ 17200 (Marcet).	

Professor Clark, of Aberdeen, invented a soap test, made by dissolving 1 oz. of white curd soap in 1 gallon of proof spirit, to ascertain the amount of Lime in water; and proposed a method of softening all waters impregnated with Carbonate of Lime, held in solution by Carbonic Acid, by adding just so much lime-water as is capable of uniting with the Carbonic Acid. The whole of the Carbonate of Lime in the water as well as that produced by the action of the Carbonic Acid upon the lime-water added, is precipitated, leaving the water comparatively pure. By this process three-fourths of the hardness of water is removed. Care, however, must be taken not to add more lime-water than is just sufficient for the purpose, otherwise this agent will contaminate the water. For further particulars the reader is referred to the 'Pharmaceutical Journal,' vol. vi. p. 526.

The Thames water, when supplied for long voyages, after being kept in tanks about four months, undergoes a kind of fermentation, which lasts for a few weeks, and after this change the water becomes bright, pleasant to drink, and will keep for months or years without further change, a property which scarcely belongs to any other river water.

AQUA DESTILLATA.

Purest water distilled through a block-tin worm, rejecting the first portion that comes over.

Distilled water has, when freshly drawn, an unpleasant odour, which goes off by exposure to air, but Carbonic Acid is in consequence absorbed by it, and Subacetate of Lead will then render it milky. If water is distilled through leaden pipes, it becomes impregnated with lead; the same is the case with natural soft water passing through leaden pipes. The royal buck-hounds were poisoned at Ascot from this cause. Zinc wire reaching the whole length of the column of water so impregnated displaces the Lead. Water containing Sulphate of Lime seems less likely to become impregnated with Lead than that containing the Chlorides.

The officinal Waters which were in the former Pharmacopœias and omitted in the present, are:—Aqua Ammoniæ Carbonatis, Aqua Anisi, Aqua Cassiæ, Aqua Calcis (Now Liquor Calcis), Aqua Chlori (now Liquor Chlori), Aqua Potassæ Effervescens, Aqua Sodæ Effervescens.

The Waters of the British Pharmacopœia, which are all distilled, except Aq. Camphoræ, are as follow; the formulæ are given under the names of the substances from which they are prepared. All these have been in previous Pharmacopœias, except Aq. Laurocerasi, which was not in Lond.

Page 27. AQUA ANETHI. From the dried fruit.
38. AQUA AURANTII. From the flowers. Imported.
54. AQUA CAMPHORÆ. (Formerly Mistura Camphoræ.)
60. AQUA CARUI. From the dried fruit.
74. AQUA CINNAMOMI. From the bark.
33. AQUA DESTILLATA.
108. AQUA FŒNICULI. Prom the dried fruit.
131. AQUA LAUROCERASI. From fresh leaves. Dose 10 to 30 min.
146. AQUA MENTHÆ PIPERITÆ. Made with oil and distilled.

Page 146. AQUA MENTHÆ VIRIDIS. Made with oil and distilled.
163. AQUA PIMENTÆ. From the dried unripe berries.
184. AQUA ROSÆ. ¼ stronger. From the fresh petals.
188. AQUA SAMBUCI. ¼ stronger. From the fresh flowers.

It was thought proper in former Pharmacopœias to add spirit to the several distilled Medicated Waters to preserve them from change, but Mr. Warington has shown, by experiment, that this is an error. He kept bottles of Dill and Anise Waters with and without spirit for two years, and found that those without spirit kept well, whilst those with spirit had become acidified by the spirit changing into Acetic Acid.

ARGENTUM.

SILVER.

Ag; eq. 108.

A white, malleable, ductile, and tenacious metal, bears a brillant polish, and is soft when pure. It has a sp. g. of 1·050. It is one of the most ancient metals, the Luna or Diana of the alchemists. It occurs native, sometimes arborescent, sometimes in masses; it is seldom, however, pure. The mines of Peru and Mexico are the richest. The mines of Saxony, Bohemia, Swabia, and Kongsberg in Norway, are the richest in Europe. It has been found in Cornwall and Devonshire. It is found as a sulphuret. It is readily acted on by Sulphuretted Hydrogen.

Soluble in Nitric Acid.

ARGENTI NITRAS.

NITRATE OF SILVER.

AgO,NO_5; eq. 170.

In colourless tabular right-rhombic prisms, or fused into cylindrical rods.

Solubility, 100 grains in 50 minims water, measuring 80 minims.

It is stated by Brande, Garrod, and Ure, that this salt is soluble in its own weight of water at 60° F., and in half its weight at 212°, but the author finds that it is soluble in half its weight of water at 60° F.

Test.—10 grains dissolved in 2 fluid drachms of distilled water give, with Hydrochloric Acid, a curdy, white precipitate (Chloride of Silver), which, when washed and thoroughly dried, weighs 8·44 grains, soluble in a solution of Ammonia—indicating the proper amount of metal. The filtrate, when evaporated by water bath, leaves no residue—indicating absence of impurities. Nitrate of Silver may be adulterated with Nitrate of Soda or Potash, and these, of course, will remain after the Chloride of Silver has been precipitated and removed.

(In all the Pharmacopœias.)

Medicinal Properties.

Tonic and antispasmodic. It is considered a reliable remedy in epilepsy,

though its *modus operandi* is not perfectly understood. It is said to produce most good in this disease when it acts upon the bowels. It is useful in chorea and angina pectoris, as well as in chronic diseases of the stomach accompanied with pain and vomiting. In typhoid fever, for inflammation and ulceration of the ileum, in pills, dose ¼ to ½ grain; if diarrhœa be the principal symptom, an injection of 3 or 4 grains to 6 fluid ounces of water is useful to promote cicatrization of internal ulcers. The discoloration of the skin occasioned by its use is first indicated by a dark line on the edges of the gums. This is said to be removed by a steady course of Potassæ Bitartras. Externally to poisoned wounds, pustules, ulcers, and erysipelatous inflammations; also as a collyrium for ulcers of the cornea and aphthous affections of the mouth: it is an excellent application for sore nipples. Dr. Gibb employs 30 to 40 grains to the ounce to inject on the larynx; 10 grains to the ounce is used to sponge a relaxed throat, or 20 grains to the ounce for diphtheria; 2 to 4 grains to the ounce is employed for lotions or injections.

Swollen chilblains are sometimes painted with a strong solution of nitrate of silver. Prescribed in pills with crumb of bread.

Dose.—¼ to ½ gr. or more.

ARGENTI OXIDUM.

OXIDE OF SILVER.

AgO; eq. 116.

A dark brown powder, insoluble in water, but soluble in Nitric Acid.

Test.—When heated to redness, 116 parts leave 108 of pure Silver. It is dissolved by Nitric Acid, and precipitated by Chloride of Sodium; the supernatant liquor ought not to be discoloured by Sulphide of Ammonium;—indicating absence of copper.

(Dub. and U. S.; not in other Pharmacopœias.)

Medicinal Properties.

It has the general therapeutic qualities of the Nitrate, without its escharotic effect, and, as it is said, without discolouring the skin. A valuable astringent in hæmorrhages.

Dose.—½ gr. to 2 grs. in form of pill.

If prescribed with Creasote in pills, the oxide must be first diffused through some simple powder, or the heat produced in rapidly reducing the Silver causes the mass to become red-hot, or to explode.

ARMORACIA.

HORSE-RADISH ROOT.

The fresh root of the *Cochlearia Armoracia*, cultivated in Britain.

Its virtues are taken up by water and alcohol. When distilled with alcohol, it yields none of the oil. The root may be kept for some time, if buried in sand in a cool place.

(Lond. and Edin.; Fr. Raifort; Belg.; not in others.)

Medicinal Properties.

It is highly stimulant, exciting the stomach, and promotes the secretions, especially that of urine. Used in atonic dyspepsia; also as a sudorific in chronic rheumatism. Externally it is a rubefacient.

Preparation.

SPIRITUS COMPOSITUS.

Fresh Root sliced, 20; dried Orange Peel, 10; Nutmeg, bruised, ½; Proof Spirit, 160; water, 40: mix, and distil over 160. =(1 in 8).

(Same as Lond.; not in others.)

Dose.—1 to 3 drms.

Not Officinal.

INFUSUM COMPOSITUM (Lond.).—Fresh Root, sliced, 1; Black Mustard Seed, 1; compound Spirit of Horse-radish, 1; boiling Distilled Water, 20: macerate two hours; strain, and add the spirit.

Dose.—1 to 2 oz. as a warm stimulant. Used also as a gargle for aphonia.

It is found in practice that a temperature of 150° to 180° makes the strongest infusion.

ARNICA.

ARNICA ROOT.

The root of the *Arnica montana*, or Leopard's Bane, dried, imported from the South of Europe.

Medicinal Properties.

Stimulant, acting on the brain and the whole nervous system; irritant to the stomach and bowels; peculiarly useful in diseases attended with a debilitated or typhoid state of the system. Used externally for bruises and wounds, and after extraction of teeth to allay pain.

(Austr. Belg. root and flowers; U. S. flowers; not in others.)

Preparation.

TINCTURA.

Bruised Root, 1; Rectified Spirit to percolate 20: macerate forty-eight hours with 15 of the spirit, agitating occasionally; pack in a percolator, and when it ceases to drop, pour on the remaining spirit, let it drain, wash the marc, press, filter, and make up to 20. =(1 in 20).

(U. S. 1 in 5; Belg. 1 in 5½: all made of the flowers; Austr. 1 in 10, from flowers: also a Tincture from the entire fresh plant; not in others.)

Dose.—1 to 4 drms.

Used externally, it should be mixed with an equal quantity of hot water and applied with lint.

The British Pharmacopœia Tincture is much weaker than any other. The root was employed in the place of the flowers on account of its having a distinctive odour. The root and flowers have much the same therapeutic strength.

Not Officinal.

ARNICA OPODELDOC.—White Soap, 4; Rectified Spirit, 10; Tincture of Arnica, 5; Camphor, 1. Dissolve by heat and strain.

ARSENICUM.

ARSENIC.

As; eq. 75.

A bluish-grey metal, of great brilliancy, quickly tarnishing on exposure. It has a sp. g. of 5·884 and volatilizes at 356° F., its fumes having the odour of garlic.

It is found in most countries usually combined with other metals. Its oxide is also a natural production, though chiefly found in the flues of furnaces in which various metallic ores are roasted.

See ACIDUM ARSENIOSUM.

ASSAFŒTIDA.

ASSAFŒTIDA.

The gum resin exuded from the excised root of *Narthex Assafœtida*. Procured in Affghanistan and the Punjaub. Imported from Bombay.

It yields all its virtues to alcohol, and forms a clear tincture, which becomes milky on the addition of water.

(In all the Pharmacopœias.)

Medicinal Properties.

It is a moderate stimulant, a powerful antispasmodic, an efficient expectorant, and feeble laxative. Useful in cases of flatulency in the bowels, in hysteric paroxysms, and other kinds of nervous affections; also in some forms of chronic bronchitis. Has lately been recommended by Mr. Worms for the Cattle Plague, and with great success.

Dose.—5 to 30 grs.

Contained in Pilula Aloes et Assafœtidæ.

Preparations.

ENEMA.

Tincture of Assafœtida, 6 drms.; Mucilage of Starch, 6 oz.: mix, for one enema.

(Lond. with decoction of Barley; Edin. with aperients; Dub. 2 drms. to 12 oz. of warm water; not in others.)

PILULA COMPOSITA.

Assafœtida, 2; Galbanum, 2; Myrrh, 2; Treacle, 1: melt together. =(Assaf. and Galb., of each 1 in 3½).

(Edin. Assaf. and Galb. of each 1 in 3; Dub. Assaf. and Galb. of each 1 in 4; U. S. Assafœtida, 3; Soap, 1; not in others.)

Dose.—5 to 10 grs.

TINCTURA.

Assafœtida (small fragments), 1; Rectified Spirit, 8: macerate 7 days, strain, filter, and add spirit to make 8. =(1 in 8).

(Same as Lond. Edin. and Dub.; Fr. 1 in 4½; Belg. 1 in 6; Austr. 1 in 7½; U.S. 1 in 7¾; not in Pr.)

Dose.—½ drm. to 1½ drm.

Prescribed with Aromatic Spirit of Ammonia, or with Mucilage, as the resin separates when mixed with water only. Alone or with Tinct. Valerianæ and Hyoscyamus in flatulent hysteria. As an injection 2 drms. to ½ oz. water.

ATROPIA.

ATROPIA.

An alkaloid, in colourless acicular crystals, $C_{34}H_{23}NO_6$, eq. 289, obtained from Belladonna Root.

Solubility in water, 1 in 500; in Rectified Spirit, 1 in 8; entirely in pure Ether.

Test.—Leaves no ash when burnt with free access of air.

(Austr. Belg. and U. S.; Sulphate of Atropine in the new Pr.; not in others.)

Medicinal Properties.

For external use only. Like Belladonna, it dilates the pupil of the eye. The Unguentum Atropiæ is a much cleaner preparation than Unguentum Belladonnæ.

Preparations.

LIQUOR.

Atropia, 4 grs.; Rectified Spirit, 1 drm.; Water, 7 drms.: mix. =(1 in 120).

A new preparation.

Each drachm contains half a grain.

This quantity of spirit causes pain when applied to the eyes, but a smaller quantity hardly holds the Atropia in solution. The sulphate dissolves without the aid of spirit, and required only one-half of the quantity of spirit to keep the Liquor from change.

UNGUENTUM.

Atropia, 8 grs.; Rectified Spirit, ½ drm.; Lard, 1 oz.: dissolve the Atropia in the spirit and mix. =(1 in 60).

Each drachm contains 1 grain. 30 grains of Ointment may be used at one application.

A new preparation.

Not Officinal.

Atropine Paper and Atropine Gelatine, in books, proposed by Mr. Streatfeild and in bottles of discs by Mr. Ernest Hart, are prepared by the author, and extensively used by oculists to dilate the pupil of the eye: a small square or disc being introduced between the eye and the lower lid.

AURANTII AQUA.

ORANGE-FLOWER WATER.

The distilled water of the flowers *Citrus Bigaradia* and *Citrus Aurantium;* prepared mostly in France.

Test.—Not coloured by Sulphuretted Hydrogen. Indicating absence of Lead.

The name of this water should be Aurantii *Floris* Aqua, for the syrup the only preparation that is made of it, is called Syrupus Aurantii Floris, to distinguish it from the Syrupus Aurantii made from the peel.

(Lond. Aurantii Floris Aqua; Edin. U. S. Austr. Pr. Aqua Florum Aurantii; not in others.)

Medicinal Properties.

A mild tonic, but chiefly used as a flavouring vehicle.

Dose.—1 to 2 oz.

Preparation.

SYRUPUS AURANTII FLORIS.

Orange-flower Water, 8; Refined Sugar, 48; Distilled Water, 16, or a sufficiency. When finished should weigh 72 oz., and measure 54 oz. Sp. g. 1·330. =(1 in 7).

(Same as Fr. Belg. and U. S.; Pr. 1 in 2; not in others.)

Dose.—1 to 2 drms.

AURANTII CORTEX.

BITTER ORANGE PEEL.

The outer part of the rind of the *Citrus Bigaradia*, dried. Imported from the South of Europe.

Medicinal Properties.

It is a mild tonic, carminative, and stomachic; seldom used alone, but a useful addition to Infusions and Decoctions.

(In all the Pharmacopœias.)

Preparations.

INFUSUM AURANTII.

Bitter Orange Peel, cut small, 1; boiling water, 20. Infuse for fifteen minutes. =(1 in 20).

(Lond. Edin. and Dub. with Cloves; not in others.)

Dose.—1 to 2 oz.

SYRUPUS AURANTII.

Tincture of Orange Peel, 1; Syrup, 7: mix. =(1 in 8).

(Lond. and Dub., dried peel; Edin., fresh, much the same in strength but liable to ferment; U. S., sweet peel, spirit, and sugar; Belg., peel, water, and sugar; Pr., peel, wine, and sugar; Austr., peel, weak spirit, sugar, and tincture; Fr., fresh orange juice, sugar, and water.)

Dose.—2 to 3 drms.

TINCTURA AURANTII.

Bitter Orange Peel, 1; Proof Spirit, 10: macerate forty-eight hours with three-fourths of the spirit, agitating occasionally; pack in a percolator, let it drain, pour on the remaining spirit, and when it ceases to drop, wash the marc, and make up 10. =(1 in 10).

(Same as Lond. Edin. Dub. and Austr.; Belg. 1 in 5½; Pr. with fresh peel; Fr. Alcoolat d'Écorce d'Oranger is a spirit distilled from fresh Orange Peel; not in U. S.)

Dose.—1 to 2 drms.

A much finer flavoured Tincture is made with fresh Orange Peel and Rectified Spirit.

BALSAMUM CANADENSE.—*See* TEREBINTHINA CANADENSIS.

BALSAMUM PERUVIANUM.

BALSAM OF PERU.

A Balsam obtained from the stem of the *Myrospermum Pereiræ* by incision. From Salvador, in Guatemala.

Soluble in 5 parts of Rectified Spirit.

Test.—Not diminished in volume when mixed with water.

(In all the Pharmacopœias except Dub.)

Medicinal Properties.

A warm and stimulating tonic and expectorant. Useful in chronic catarrhs, asthma, and other pectoral complaints and in rheumatism; also to restrain excessive discharges, as gleets, etc. Externally for chronic indolent ulcers and for sore nipples.

Dose.—10 to 15 minims as an emulsion with mucilage or yolk of egg.

Administered diffused in water by means of Sugar and the Yolk of Egg or Gum Arabic.

Not Officinal.

UNGUENTUM.—Balsam, 1; Lard, 7.

An excellent application for sore nipples or cracked lips.

Also Balsam, 1; Resin Ointment, 1: mix. Applied upon cotton-wool for bed-ridden sores.

BALSAMUM TOLUTANUM.

BALSAM OF TOLU.

A Balsam obtained from the stem of the *Myrospermum Toluiferum* by incision; from Tolu, New Granada.

Test.—Entirely dissolved by alcohol and the volatile oils.

(In all the Pharmacopœias except Austr. and Pr.)

Medicinal Properties.

Similar to those of the Balsam of Peru.

Dose.—10 to 30 grs., in the form of Emulsion, with Mucilage and Sugar.

Contained in Tinctura Benzoini Composita.

Preparations.

SYRUPUS TOLUTANUS.

Balsam of Tolu, $1\frac{1}{4}$; Sugar, 32; water, 20: boil the Balsam half an hour, adding water when required; when cold, make up to 16; filter, add sugar, and dissolve. Finished, weighs 48 and measures 36. Sp. g. 1·330. =(1 in $28\frac{4}{5}$).

(Same strength as Lond.; Belg. with 5 per cent. spirit; Fr. and Dub. strength undefined; the following are made with Tincture: U. S. 1 in 18; Edin. 1 in 20; Belg. extemporaneous 1 in 20; not in Austr. and Pr.)

Dose.—2 to 4 drms., in cough mixtures.

TINCTURA TOLUTANA.

Balsam of Tolu, 1; Rectified Spirit, 8: dissolve, filter, and make up 8. =(1 in 8).

(Lond. 1 in 20; Edin. Dub. U. S. Fr. 1 in 10; Belg. 1 in 6; not in Austr. and Pr.)

Dose.—5 to 15 minims, mixed with mucilage or syrup.

BEBERIÆ SULPHAS.

SULPHATE OF BEBERIA.

The Sulphate of an alkaloid, $C_{38}H_{21}NO_6, HO, SO_3$, eq. 360, obtained from the bark of the *Nectandra Rodiei*, Greenheart tree, growing in British Guiana. In dark-brown thin translucent scales, yellow when in powder.

Soluble in water, 1 in 80; in spirit, sparingly.

Test.—Entirely destructible by heat. Water forms with it a clear brown solution, which soon spoils by keeping.

Medicinal Properties.

Tonic and antiperiodic, an imperfect substitute for Quinine; sometimes given in menorrhagia.

Dose.—1 to 3 grs. as a tonic; 5 to 10 grs. as an antiperiodic.

A new preparation.

(Not in any other Pharmacopœia.)

BELA.

BAEL.

The half-ripe fruit of *Ægle Marmelos*, dried; from Malabar and Corômandel.

In fragments with a brownish-orange dried pulp adhering to the rind.

Medicinal Properties.

Has been much extolled for diarrhœa and dysentery, and is given in combination with Syrup of Red Gum or other astringents.—*See* CATECHU.

Preparation.

EXTRACTUM LIQUIDUM.

Bael, 1; distilled water, 15; Rectified Spirit, $\frac{1}{8}$: macerate for twelve hours in 5 of the water, pour off the liquor, repeat the operation twice for one hour. Press, filter, and evaporate to 1, including the spirit. A fluid ounce is equal to a solid ounce.

A new preparation.

Dose.—1 to 2 drms.

(Not in any other Pharmacopœia.)

BELLADONNA.

DEADLY NIGHTSHADE.

HERB.

The leaves, fresh and dried, and the fresh branches of *Atropa Belladonna;* gathered, when the fruit has begun to form, from wild or cultivated plants in Britain.

(Lond. Edin. Dub. Belg. and U. S. leaves, fresh and dried; Pr. leaves and branches; Austr. leaves and herb; Fr. leaves and fruit.)

Medicinal Properties.

Belladonna is a powerful narcotic, possessing diaphoretic and diuretic properties, and is exceedingly valuable in convulsions, neuralgia, hooping-cough, paralysis, and diseases having their seat chiefly in the nervous system. Applied to the eye it causes dilatation of the pupil.

Preparations.

EMPLASTRUM.

Extract of Belladonna, 2 : Soap Plaster, 1; Resin Plaster, 1 : melt together. =(1 in 2).

(Same strength as Lond.; Edin. and Dub. 1 in 3; Belg. with Extract and Oil of Belladonna; U. S. with Alcoholic Extr. 1, Resin Plaster, 2; not in others.)

It is best prepared at the time it is required, and spread with a moderately warm iron.

EXTRACTUM.

The inspissated juice of the leaves and stalks, the albumen being separated.

100 lb. of herb yields 56 lb. of juice = nearly 4 lb. extract (viz. 63 oz.).
100 lb. leaves, when dried, weigh 16 lb.

(Lond. inspissated juice of the leaves; Edin. inspissated clear juice of the leaves; Dub. the clear juice of the leaves coagulated by heat, filtered and evaporated; Austr. from leaves; Belg. with clear juice of the herb evaporated and mixed with the powder of the same, so that the whole can be reduced to powder,—also an extract of the herb with fæculæ evaporated to dryness,—also an aqueous extract from the dried root, and alcoholic extracts from the herb, and from the seeds; Pr. from leaves and flowering branches, made with spirit; Fr. clarified juice evaporated; U. S. same as Br.,—also an alcoholic extract from the powder of the leaf.

Dose.—¼ to 1 gr.

TINCTURA.

The dried leaves in coarse powder, 1; Proof Spirit, 20: macerate forty-eight hours in 15 of the spirit, agitating occasionally; pack in a percolator, and when it ceases to drop, add the remaining spirit, let it drain, wash and press the marc; filter and make up 20. =(1 in 20).

(Lond. 1 in 9½; Dub. 1 in 8; U. S. 1 in 7¾; Austr. 1 in 7; Belg. 1 in 5½; not in others; Belg. and Fr. have an ethereal tincture, and Belg. has a tincture of the fresh herb.)

[*Is only half the strength of London.*]

60 minims may be considered equal in therapeutical strength to 1 gr. of the extract.

Dose.—From 5 to 20 minims.

UNGUENTUM.

Extract of Belladonna, 1; Lard, 5½: mix. =(1 in 6½).

(Same as U.S.; Lond. 1 in 9; Belg. with dried leaves; not in others.)

This is not a clean ointment; ½ to 1 drm. of Liniment of Belladonna to 1 oz. Lard answers well, and does not colour the skin.

ROOT.

The root of the plant collected in early spring and dried.

(In all the Pharmacopœias except Lond. and Edin.)

Preparations.

LINIMENTUM.

The powdered root, 20; Camphor, 1; Rectified Spirit, 20: moisten the root for seven days, then pack in a percolator, and add sufficient spirit to produce, with the Camphor, 20. A fluid ounce is equal to a solid ounce.

A new preparation; four times the strength of the extract of the Leaves and Stalks.

Prescribed with equal parts of Soap Liniment or Compound Camphor Liniment. An excellent topical application for neuralgic pain. When an oily Liniment is required, the Liniment of Belladonna and Chloroform is best, as it readily dissolves in the oil.

ATROPIA.—*See* ATROPIA.

Not Officinal.

LINIMENTUM BELLADONNÆ ET CHLOROFORMI.—Powdered Root, 20; sufficient Chloroform to percolate 20: mixes with oils, but not readily with spiritous liniments.

Applied with equal parts or more of camphor liniment or olive oil, for painful rheumatism.

SUCCUS.—Juice of the plant, 3; Rectified Spirit, 1: mix and filter.

Dose.—4 to 30 minims.

SUPPOSITORIA.—Extract of Belladonna, 1 gr.; Cacao Butter, 6 grs.; Lard, 4 grs.; Wax, 1: mix, and form into a cone for one suppository.

BENZOINUM.

BENZOIN.

The Balsamic Resin, exuded from incisions made in the stem of the *Styrax Benzoin*, a native of Sumatra, Java, Borneo, Laos, and Siam.

There are several qualities of Benzoin in the market; two, however, are chiefly used in medicine, one in agglutinated masses, the other in tears (from Siam), being the purest, and having the stronger odour.

Solubility. The tears wholly soluble in Alcohol. The mass contains impurities, which are left after treating with Alcohol.

Sp. g. 1·062 to 1·093.

(In all the Pharmacopœias.)

Medicinal Properties.

Stimulant, expectorant, styptic.

Dose.—10 to 30 grs., rarely given in powder.

Preparations.

ACIDUM BENZOICUM.—*See* ACIDUM BENZOICUM.

TINCTURA COMPOSITA. Formerly FRIAR'S BALSAM. TRAUMATIC BALSAM.

Benzoin, 8; prepared Storax, 6; Balsam of Tolu, 2; Socotrine Aloes, 1½; Rectified Spirit, 80: macerate seven days, filter and wash the marc with spirit to make up 80. =(1 in 10).

(A compromise between Lond. and Edin.; U. S. much the same; Belg. and Fr. more complex—Baume du Commandeur; not in Dub. Austr. and Pr.)

Dose.—½ to 2 drms., triturated with mucilage or yolk of egg.

Internally given for chronic cough.

Applied externally to languid ulcers, cuts, or wounds.

Not Officinal.

UNGUENTUM BENZOINI (U. S.).—Benzoin, in coarse powder, 1; Lard, 16: heat together in a water bath two hours; strain and stir till cool.

This Benzoated lard is much used for ointments; the Benzoin is said to preserve the lard.

TINCTURA BENZOINI.—Benzoin, 1; Rectified Spirit, 10: dissolve and strain.

(Pr. 1 in 8; Austr. 1 in 15; Belg. 1 in 6; not in others.)

A nice lotion to protect the face from the heat of the sun is made with Tincture of Benzoin, 1; Rose-water, 40.

BISMUTHUM ALBUM.

WHITE BISMUTH.

BiO_3,NO_5; eq. 288.

A heavy white powder in minute crystalline scales.

Insoluble in water.

(In all the Pharmacopœias. Lond. Bismuthi Nitras; Dub. Bismuthi Subnitras; Pr. Bismuthum Hydrico-nitricum.)

Test.—It dissolves in Nitric or Hydrochloric Acid, a little diluted, without effervescence; is not precipitated by diluted Sulphuric Acid. Indicating absence of Lead. When mixed with dilute Sulphuric Acid in excess, and subjected to Marsh's test, it yields no Arsenic, or merely a trace.

Medicinal Properties.

It is highly useful in pyrosis, some forms of vomiting, and irritative dyspepsia; also in diarrhœa. Externally it is used as a cosmetic, and in lotion for some chronic skin diseases.

Dose.—5 to 15 grs. in pill at meals.

Preparation.

TROCHISCI.

White Bismuth, 3¼ oz. and 20 grs.; Carbonate of Magnesia, 4 oz.; precipitated Carbonate of Lime, 6 oz.; Sugar, 30 oz.; Gum Arabic, 1 oz.; Water, 6 oz.; Oil of Cinnamon, $\frac{1}{16}$ oz.: make 720 lozenges.

Each lozenge contains 2 grains of White Bismuth.

A new preparation.

Dose.—2 lozenges.

Not Officinal.

LIQUOR BISMUTHI AMMONIO-CITRATIS.—Dissolve 430 grains of metallic Bismuth in sufficient Nitric Acid, then add Ammonia to the solution. Well wash the resulting precipitate with distilled water; gradually add the moist Oxide thus precipitated to a boiling solution of Citrate of Ammonia, made by exactly neutralizing 480 grains of Citric Acid with Ammonia; the precipitate will be slowly but entirely dissolved. The solution should be then neutralized with Ammonia, and water added to make up 20 oz. Each drachm contains 3 grains of Oxide of Bismuth.

Dose.—½ to 1 drm.

UNGUENTUM.—Bismuth, 1; Simple Ointment, 4.

LOTIO BISMUTHI.—Nitrate of Bismuth, 6 grs.; Corrosive Sublimate, ½ gr.; Spirits of Camphor, 1½ minim; water to 1 oz.: mix. Skin Hospital.

A soothing lotion in chronic cases.

BORAX.

BORAX.

Biborate of Soda, $NaO,2BO_3+10HO$, eq. 191.

A salt imported in a crude state from India; large quantities are also manufactured from the native Boracic Acid of Tuscany, and the native Borate of Lime of Peru.

In transparent colourless crystals, sometimes slightly effloresced.

Solubility in water, 1 in 22; in Glycerine, 1 in 1. By the aid of 1 of Glycerine, 1 part of Borax will dissolve in 12 of Water. Insoluble in Rectified Spirit.

Test.—191 grains dissolved in 10 fluid ounces of distilled water require for saturation 100 measures of the volumetric solution of Oxalic Acid. Biborate of Soda is an alkaline salt, and the quantity of Oxalic Acid required to render it neutral is the proof that it is not contaminated with neutral salts.

Medicinal Properties.

Refrigerant and diuretic. Causes contraction of the uterus; and is combined with ergot and cinnamon-water to produce expulsion of the placenta. Used as an emmenagogue. Externally in skin diseases. A saturated solution is applied with great success in pityriasis versicolor, and it acts by dissolving the epidermis, and so removing the parasite.

Dose.—5 to 30 grs.

(In all the Pharmacopœias; Dub. Sodæ Biboras; Fr. Borate de Soude; Pr. Natrum Biboracicum.)

Preparations.

MEL.

Finely powdered Borax, 1; Clarified Honey, 7: mix. =(1 in 8).

(Lond. Edin. Dub. and U. S. 1 in 9; not in others.)

Applied to aphthæ of the mouth.

A great improvement in Mel Boracis would be to dissolve 1 of Borax in 1 of Glycerine, and then add 6 of Honey.

2 ounces of Borax are dissolved by 2 ounces of Glycerine, and the solution measures only 3¼ ounces.

Not Officinal.

LOTIO.—Borax, 1; Rose-water, 24.

Used as a cosmetic.

TINCTURA MYRRHÆ ET BORACIS.—Myrrh, 1; Eau de Cologne, 16; Borax, 1; Water, 3; Syrup, 3.

For the teeth and gums.

UNGUENTUM.—Borax, ℥; Simple Ointment, 8.

For chilblains or cracked nipples.

BUCCO.

BUCHU.

The dried leaves of the *Barosma betulina*, *B. crenulata*, *B. serratifolia*, imported from the Cape of Good Hope.

Water and Alcohol extract their virtues, which probably depend on volatile oil and extractive.

(In all the Pharmacopœias except Austr. Fr.)

Medicinal Properties.

Tonic, stomachic, diuretic, and diaphoretic. Given chiefly in complaints of the urinary organs, attended with excess of uric acid, morbid irritation of the bladder and urethra, diseases of the prostate, and retention or incontinence of urine. Also in dyspepsia, chronic rheumatism, cutaneous affections, and dropsy.

Dose.—20 to 40 grs. in powder.

Preparations.

INFUSUM.

Buchu bruised, 1; boiling Distilled Water, 20: infuse for an hour and strain. =(1 in 20).

(Same as Lond. Ed. and Dub.; U.S. 1 in 16; not in others.)

Dose.—1 to 2 oz.

TINCTURA.

Buchu bruised, 1; Proof Spirit, 8: macerate for forty-eight hours with ¾ of the Spirit, pack in a percolator, and let it drain, then pour on the rest of the spirit; when it ceases to drop, press and wash the marc, filter and make up 8. =(1 in 8).

(Same as Edin. and Dub.; not in others.)

Dose.—1 to 3 drms.

Not Officinal.

CADMIUM.

CADMIUM.

Cd; eq. 65.

A white metal closely resembling Tin, but harder and more tenacious, sp. g. 8·60. Does not become oxidized except when heated; the oxide is orange-coloured, not volatile, and easily reducible. The Iodide of Cadmium (Cd I, eq. 183) in pearl-like crystalline scales.

UNGUENTUM CADMII IODI.—Iodide of Cadmium, 30 to 60 grs.; Lard, 1 oz.: mix. This is introduced instead of the old Unguentum Plumbi Iodidi, which imparted a yellow colour to the skin, and probably was on this account omitted from the Pharmacopœias.

CAJUPUTI OLEUM.

OIL OF CAJUPUT.

The Oil distilled in the Molucca Islands from the leaves of the *Melaleuca minor*.

Very mobile, transparent, of a fine pale bluish-green colour. It has a strong agreeable odour, and a warm aromatic taste, and leaves a sensation of coldness in the mouth.

Solubility: entirely in Alcohol.

Test.—Sp. g. ·914. Dropped on water, it speedily evaporates. It burns rapidly, without leaving any residue.

Medicinal Properties.

A powerful topical and general stimulant, antispasmodic, and diaphoretic. Efficacious in dropsy, chronic rheumatism, hysteria, flatulent colic and other spasmodic and nervous affections, and in low states of the system. Externally, largely diluted with Olive Oil (1 to 2), used to allay chronic rheumatism and gout pains. Applied with lint for toothache.

(In all the Pharmacopœias.)

Dose.—1 to 5 minims on a lump of Sugar, or in any bland fluid.

Preparation.

SPIRITUS CAJUPUTI.

Oil of Cajuput, 1; Rectified Spirit, 9: dissolve. =(1 in 10).

(In no other Pharmacopœia.)

A new Preparation.

May be used as a liniment in Rheumatism, etc.

Dose.—10 to 50 minims.

Not Officinal.

CALABAR BEAN.

THE ORDEAL BEAN OF OLD CALABAR.

The seed or bean of the *Physostigma venenosum*, from Calabar.

Medicinal Properties.

Internally a strong sedative poison. It is scarcely used except as an application to the eye to cause contraction of the pupil, and to diminish presbyopia.

Dr. Christison first called attention to this bean and its poisonous character, but its use in ophthalmic surgery has been developed by the labours of Dr. Frazer, Dr. Argyll Robertson, Mr. Ernest Hart, and Mr. Nunneley, of Leeds. The latter gentleman published several papers in the 'Lancet' on the subject in 1863.

Messrs. Jobst and Hesse think they have succeeded in extracting the *active prin-*

ciple, which they aver resides only in the Cotyledons. The process is somewhat tedious, acting upon the Cotyledons first with alcohol and evaporating; then with water; afterwards with ether, then with sulphuric acid; lastly, throwing down with ammonia. They however consider the alcoholic solution the best suited for medicinal use.

CALABAR PAPER AND GELATINE, imbued with the tincture as first prepared by the author, are in daily use, the latter being considered preferable to the former, dissolving as it does in the eye, and causing the contraction of the pupil without inconvenience; these are sold in books and in discs. The former was introduced by Mr. Streatfeild, the latter by Mr. Ernest Hart.

CALCIUM.

CALCIUM.

Ca; eq. 20.

Calcium, a brilliant white combustible metal, was discovered by Sir Humphry Davy in 1808. It is the metallic base of Lime.

Not Officinal.

CHLORIDE OF CALCIUM.

MURIATE OF LIME.

In crystals consisting of equal weights of water and dried Chloride of Calcium.

5 grs. of the crystal in 2 oz. of water, and a fourth part given frequently, arrests sickness when most remedies fail.

It is also given in glandular diseases.

LIQ. CALCII CHLORIDI, Dub. 2 oz. of crystals dissolved in 7 oz. Distilled Water.

Dose.—30 minims.

CALX.

LIME.

CaO; eq. 28.

The oxide of the metal Calcium, in hard flaky masses, which, when well sprinkled with water, should crack, swell up, evolve much heat, and crumble to powder.

Solubility.—At 32° F.	twenty oz. of water	dissolves	13·25 grs.
60°	ditto		11·6
212°	ditto		6·7

Test.—If previously slaked, it dissolves without effervescence in dilute Hydrochloric Acid, and if this solution be evaporated to dryness, and the residue redissolved in water, only a very scanty precipitate forms on the addition of saccharated solution of Lime—indicating absence of Phosphate of Lime.

CALX CHLORATA.

CHLORINATED LIME.

CaO,ClO; eq. 71·5.

Consists of 1 equivalent of Hypochlorite of Lime, 1 eq. of Chloride of Lime, and a variable amount of Hydrate of Lime.

A dull white powder with a feeble odour of Chlorine.

Test.—10 grains mixed with 30 grains of Iodide of Potassium, and dissolved in 4 fluid ounces of water, produce, when acidulated with 2 fluid drachms of Hydrochloric Acid, a reddish solution which requires for the discharge of its colour at least 85 measures of the volumetric solution of Hyposulphite of Soda.

In this test the Hydrochloric Acid, acting on the Chloride of Lime, liberates Chlorine, and this reacting on the Iodide of Potassium, sets free an equivalent quantity of Iodine, which, if the Chloride of Lime be good, will require the quantity stated of solution of Hyposulphite of Soda to convert it into colourless Iodide of Sodium and Tetrathionate of Soda.

(Lond. Edin. Dub. and U. S. Calx Chlorinata; Austr. Calcaria Chlorata; Pr. Calcaria Hypochlorosa; Belg. Chloruretum Calcis; Fr. Hypochlorite de Chaux.)

Preparation.

LIQUOR CALCIS CHLORATÆ.

Chlorinated Lime, 1; Distilled Water, 10: triturate and strain.

=(1 in 10).

(Same as Dub. and Belg.; Belg. has also a weak solution, 1 of strong solution in 4 water; Fr. 1 in 45; not in others.)

Test.—Sp. g. 1·035. 1 fluid drachm, mixed with 20 grains of Iodide of Potassium dissolved in 4 ounces of water, when acidulated with 2 drachms of Hydrochloric Acid, gives a red solution, which requires for the discharge of its colour 46 measures of the volumetric solution of Hyposulphite of Soda. (Explanation of Test given above.)

Medicinal Properties.

Not much employed internally; externally as a lotion to foul ulcers, burns, chilblains, and cutaneous eruptions, especially the itch. A disinfecting agent.

Dose.—20 to 40 minims in a wineglassful of water.

1 ounce contains nearly 44 grains of chlorinated lime.

CALCIS CARBONAS.—*See* CRETA PRÆPARATA.

CALCIS CARBONAS PRÆCIPITATA.

PRECIPITATED CARBONATE OF LIME.

CaO,CO_2; eq. 50.

A white crystalline powder. Insoluble in water.

Chloride of Calcium, 5; Carbonate of Soda, 13; Boiling Water, 80: dissolve each in 40, mix, and precipitate.

Test.—With dilute Nitric Acid it gives a clear solution, which, if perfectly neutral, is not precipitated by saccharated solution of Lime added in excess, or by the solution of Nitrate of Silver.

Note.—The neutral solution must be boiled, to get rid of the Carbonic Acid, before testing. The test will then indicate the absence of phosphates and chlorides.

(Same as Dub. and U. S.; not in others.)

Medicinal Properties.

Antacid and astringent, a corrective for diarrhœa.

Dose.—10 to 100 grs., in powder or mixture.

CALCIS HYDRAS.

SLAKED LIME.

A white powder, strongly alkaline and caustic. CaO,HO; eq. 37.

Lime, recently burned, 32; Water, 20: slake the Lime, sift the powder, and keep in a bottle. Should be recently prepared.

Solubility: sparingly soluble in water (1 in 800); the solution, on exposure, soon acquires a film of Carbonate of Lime.

Test.—Should not effervesce on the addition of an acid.

Preparations.

LINIMENTUM CALCIS.

Solution of Lime, 1; Olive Oil, 1: mix.

(Same as Lond. and Dub.; Edin. and U. S. are made with Linseed Oil, and then called Carron Oil; Belg. Solution of Lime, 88, Almond Oil, 12, mix; Fr. 6 to 1; not in Austr. and Pr.)

Use.—The best liniment to apply to burns and scalds.

LIQUOR CALCIS. SOLUTION OF LIME.

Slaked Lime, 1; Water, 80.

(Lond. Ed. and Dub. and U. S. 1 to 40; Fr. Eau de Chaux; Austr. Belg. Pr. Calcaria Soluta.)

Water becomes saturated with much less lime than ordered, therefore Liquor Calcis is of the same strength in all.

Bottles containing Lime Water should be kept full and well closed from the air.

Each ounce contains ½ gr. of Lime.

Used in diarrhœa connected with acidity, and in some cases of dyspepsia; also in some calculous affections, and given to children for rickets.

Dose.—½ to 2 oz. as an antacid.

LIQUOR CALCIS SACCHARATUS.

Slaked Lime, 1; Refined Sugar in powder, 2; Distilled Water, 20: digest for some hours and strain.

A new preparation.

Test.—Sp. g. 1·052. 1 fluid ounce requires for neutralization 25·4 mea-

sures of standard solution of Oxalic Acid, which corresponds to 7·11 grains of Lime. =(1 in 68),

To correct chronic vomiting, and vomiting of pregnancy.

Dose.—15 to 60 minims in milk.

CALCIS PHOSPHAS PRÆCIPITATA.

PRECIPITATED PHOSPHATE OF LIME.

$3CaO,PO_5$; eq. 155.

A light white amorphous powder.

Insoluble in water.

Test.—10 grains dissolve perfectly, and without effervescence, in dilute Hydrochloric Acid. Indicating absence of carbonate. The solution yields with Ammonia a white precipitate, which is insoluble in boiling solution of Potash, and when washed and dried weighs 10 grains.

(Dub. U. S. and Austr.; not in others.)

Medicinal Properties.

For rickets and mollities ossium; said to be useful in scrofulous affections. and to promote union of bone fractures.

Dose.—10 to 40 grs.

Contained in Pulvis Antimonialis.

Not Officinal.

HYPOPHOSPHITE OF LIME. *Dose.*—3 to 5 grs., either alone or dissolved in Glycerine. Given in cases of nervous and general debility and pulmonary consumption.

CALOMELAS.

CALOMEL.

Syn. HYDRARGYRI SUBMURIAS; HYDRARGYRI CHLORIDUM.

Subchloride of Mercury, Hg_2Cl; eq. 235·5.

A dull-white, heavy, and nearly tasteless powder.

Insoluble in Water or Rectified Spirit.

Test.—Entirely volatilized by a sufficient heat—indicating absence of impurities. Warm Ether, which has been shaken with it in a bottle, leaves on evaporation no residue—indicating absence of Corrosive Sublimate.

Medicinal Properties.

Alterative, cholagogue, purgative, and antiphlogistic.

As an alterative it is used in syphilitic affections, chronic skin diseases, and scrofula in adults.

As a cholagogue in chronic hepatitis and jaundice.

As a purgative in bilious headache, hepatic dropsy, melæna, inflammation of the brain, and apoplexy.

As an antiphlogistic, 2 grs. combined with ¼ gr. opium, every four hours in inflammation of the serous membranes: *e. g.* iritis, pleurisy, and peritonitis.

For children, the absence of taste renders it convenient.

Its *local uses* are numerous, as in snuff, or as a gargle in venereal sore-throat, as an injection with or without lime-water, in blenorrhœa, and in fumigation. In a wide range of skin affections, it is invaluable as an ointment.

Dose.—As an alterative, ½ to 1 gr. three times a day; as a purgative and cholagogue, 2 to 8 grs.

(In all the Pharmacopœias; Lond. Hydrargyri Chloridum; U. S. Hydrargyri Chloridum Mite; Pr. Hydrargyrum Chloratum Mite.)

I find the best form for making Calomel into pills, as follows: 2 of Calomel, 1 of Soft Manna, 1 of Compound Tragacanth powder. When made with mucilage they get very hard by keeping, and if made with conserve are apt to become moist.

Preparations.

PILULA COMPOSITA.

Calomel, 1; Sulphurated Antimony, 1; Guaiac Resin in powder, 2; Castor Oil, 1: mix. =(1 in 5).

(Same as Lond. Edin. and Dub.; Belg., Pil. Alterans Plummeri, 1 in 3; U. S., Pil. Antimonii Comp., 1 in 6; not in others.)

Dose.—5 to 10 grs. as an alternative.

UNGUENTUM.

Calomel, 1; prepared Lard, 5½: mix. =(1 in 6½).

A new preparation.

Not Officinal.

LOTIO HYDRARG. NIGRA.—Calomel, 3 grs.; Lime-water, 1 oz. =(1 in 145).

CALUMBA.

CALUMBO.

The root of the *Cocculus palmatus*, sliced transversely and dried; from Mozambique. It is easily reduced to powder, which has a greenish tinge; it becomes browner with age, and deepens when it is moistened. The powder attracts moisture from the air, and is apt to undergo decomposition, it should therefore be prepared in small quantities.

Test.—Moistened with a solution of Iodine, it becomes black—indicating presence of Starch. A decoction is not blackened by the persalts of Iron—indicating absence of astringent matter.

Medicinal Properties.

A bitter stomachic and tonic, useful in debility of the digestive organs. Given in convalescence from acute diseases, combined with Alkalies or Bismuth. It is one of the few bitters that can be prescribed with Salts of Iron.

Dose.—10 to 20 grs. three or four times a day.

Frequently given with powdered Ginger, Subcarbonate of Iron, and Rhubarb.

(In all the Pharmacopœias.)

Preparations.

EXTRACTUM.

Powdered Calumbo, 1; Proof Spirit, 5: macerate in half the spirit for twenty-four hours, pack in a percolator, and let it drain, then pour on the remaining spirit; percolate, distil off the spirit, and evaporate the residue.

(Same as Austr. Fr. Pr.; Belg. Alcoholicum et Aquosum; not in others.)

Dose.—2 to 6 grs.

A new preparation.

INFUSUM.

Calumbo, coarsely powdered, 1; cold Distilled Water, 20: macerate one hour, and strain. =(1 in 20).

Calumbo root contains starch and mucilage, both of which are dissolved by hot water; cold water dissolves the mucilage only.

(Lond., with hot, 1 in 27; Edin., with cold, 1 in 40; U. S. allows both, 1 in 32; Dub., with cold, 1 in 24; not in others.)

Dose.—½ to 1 oz.

Physicians prescribing for patients who wish to take with them a supply of their medicines containing Infusion of Calumbo, will find 2 drachms of Tincture to be of about the same therapeutical strength as 1 oz. of the infusion.

TINCTURA.

Bruised Calumbo, 1; Proof Spirit, 8: macerate forty-eight hours with 6 of the spirit, agitating occasionally; pack in a percolator, and let it drain, then pour on the remaining spirit; when it ceases to drop, press, and wash the marc with spirit to make up 8. =(1 in 8).

(Same as Dub. and U. S., and 50 per cent. stronger than Lond. or Edin.; Belg. 1 to 5½; not in others.)

Dose.—½ to 2 drms.

CAMBOGIA.

GAMBOGE.

A Gum Resin, from an undetermined species of *Garcinia*, imported from Siam.

Soluble in Rectified Spirit, which is rendered of an opaque yellow by water; in Ammoniated Alcohol, which is not rendered turbid by the addition of water; in Ether to the amount of four-fifths.

Test.—An emulsion made with boiling water, and cooled, does not become green on addition of Solution of Iodine. Indicating absence of flour or starch.

Medicinal Properties.

It is employed in the treatment of dropsy, attended with torpidity of the bowels, generally in combination with Elaterium, Bitartrate of Potash, or Jalap. Also in cases of obstinate constipation, and has frequently been found effectual in the expulsion of the tapeworm. As it is apt to occasion much sickness and griping, it is best given in small doses, repeated at short intervals, until it operates.

It may be given in pill or emulsion, or dissolved in an alkaline solution; the last method has been recommended in dropsical complaints.

(Lond. Edin. Dub. and U. S. Gambogia; Austr. Belg. Pr. Fr. Gummi Gutti.)

Dose.—1 to 5 grs. In cases of tænia, may be increased to 10 or 15 grs.

Preparation.

PILULA COMPOSITA.

Gamboge, 1; Barbadoes Aloes, 1; Aromatic Powder, 1; Hard Soap, 2; Syrup, a sufficiency: mix. =(probably 1 in 6).

(Same strength as Edin. and nearly as Lond.; not in others.)

Dose.—5 to 10 grs.

CAMPHORA.

CAMPHOR.

$C_{20}H_{16}O_2$; eq. 152.

A concrete volatile oil obtained from the wood of *Laurus Camphora* by sublimation, and resublimed in bell-shaped masses. Imported from China. The Borneo Camphor from the Dryobalanops, though virtually the same as the officinal, is valued by the Chinese a hundred times more.

Solubility in Water, 1 in 1000; in Rectified Spirit, 1 in 1; freely in Chloroform, Ether, volatile and fixed oils, and Acetic Acid; but not in Alkalis. Carbonic Acid, Bicarbonate of Magnesia, and Myrrh increase its solubility in water.

Test.—Its sp. g. varies from ·986 to ·996. It evaporates entirely if left exposed to the air. It melts at 288° F., boils at 400°, and in close vessels sublimes unchanged.

Medicinal Properties.

Stimulant at first, afterwards sedative; antispasmodic, diaphoretic.

In moderate doses it produces (in health) mental exhilaration, increases the heat of the skin, and occasionally diaphoresis. It allays nervous irritation, and produces a general placidity of feeling. It is useful in diarrhœa, and in large doses it causes giddiness and disposition to sleep. It is an antaphrodisiac, and given in chordee.

(In all the Pharmacopœias.)

Dose.—2 to 10 grs.

Contained in Linimentum Aconiti, Lin. Belladonnæ, and Lin. Saponis.

Preparations.

AQUA.

Camphor broken small, ½ oz.; Distilled Water, 1 gallon: digest at least two days.

(Lond. and Belg. Mistura Camphoræ, and made with a small quantity of Spirit; Edin. contained also almonds; Dub. with Tincture; Fr. Eau Camphorée; U. S. with a little Spirit and Carbonate of Magnesia; not in others.)

Dose.—1 to 2 oz. = ½ or 1 gr. of Camphor.

LINIMENTUM.

Camphor, 1; Olive Oil, 4: dissolve. =(1 in 5).

(Same as Lond. Edin. Dub. and U. S.; Belg. Oleum Camphoratum, 1 in 10; Austr. do., 1 in 3; Fr. Huile Camphrée, 1 in 8; not in Pr.)

LINIMENTUM COMPOSITUM.

Camphor, 5; English Oil of Lavender, ¼; strong Solution of Ammonia, 10; Rectified Spirit, 30: dissolve the Oil and Camphor in the Spirit, and gradually add the Ammonia.

(Same as Dub.; contains nearly twice the amount of Ammonia as Lond.; not in others.)

Stimulating. Most useful in tic-douloureux and chronic rheumatism. Painful neuralgia has been relieved by applying lint previously soaked in the liniment and covered with a dry napkin until redness is produced, and then lightly rubbing the part with a solution of Bimeconate of Morphia until the effect is produced.

SPIRITUS.

Camphor, 1; Rectified Spirit, 9: dissolve. =(1 in 10).

(Lond. Dub. and U. S.; Austr. 1 in 9; Edin. 1 in 17; Pr. 1 in 15; Fr. Alcoöl Camphré, 1 in 8.)

Dose.—10 to 30 minims in milk or on Sugar.

TINCTURA CAMPHORÆ CUM OPIO. CAMPHORATED TINCTURE OF OPIUM.

Opium, in coarse powder, 40 grs.; Benzoic Acid, 40 grs.; Camphor, 30 grs.; Oil of Anise, ½ drm.; Proof Spirit, 20 oz.: macerate seven days, strain, wash the marc with spirit, and filter 20 oz. =(1 of opium in 240).

Known as Paregoric Elixir.

Given to allay spasmodic cough in bronchitis and in phthisis.

(Same as Edin. and U. S.; Belg. ⅕ stronger than Lond. and ⅓ weaker than Dub.; Pr. contains much more Benzoic Acid and Aniseed; not in Austr.)

Dose.—½ to 2 drms.

Not Officinal.

CAMPHOR BALLS.—Camphor, 2; White Wax, 5; Spermaceti, 3; Oil of Almonds, 3; Tincture of Tolu, ¼: melt, and pour into half-ounce gallipots.

CAMPHORA CUM CRETA.—Camphor, 1; Prepared Chalk, 8; powder the Camphor by rubbing it with a few drops of Rectified Spirit, mix in the Chalk, and pass the whole through a sieve. A dentifrice.

CERATUM.—Camphor, 2; White Wax, 3; Lard, 4; Oil of Almonds, 3: melt.

ESSENTIA.—Camphor, 1; Rectified Spirit, 20:—or Camphor, 1; Rectified Spirit, 18; Tincture of Myrrh, 2. In domestic use for making Julep. Given for diarrhœa, 5 minims every 10 or 15 minutes in water till diarrhœa is arrested.

CANNABIS INDICA.

INDIAN HEMP.

The flowering tops of the female plant of the *Cannabis sativa*, from which the resin has not been removed, dried. Cultivated in India.

We are indebted to Dr. O'Shaughnessy for the first introduction of Indian Hemp into this country. He brought over a quantity with him from India, which the author converted into extract for him, and distributed amongst a large number of the profession under Dr. O'Shaughnessy's directions.

Medicinal Properties.

Dr. Clendinning used it largely, and his opinion is as follows:—"It acts as a soporific or hypnotic in conciliating sleep; as an anodyne in lulling irritation; as an antispasmodic in checking cough and cramp; as a nervine stimulant in removing languor and anxiety, and raising the pulse and spirits without any drawback or deduction on account of indirect or incidental inconveniences, producing tranquil sleep without causing constipation, nausea, or other effect or sign of indigestion, without headache or stupor."

More recently Dr. Russell Reynolds has found it very successful in certain cases of insomnia, neuralgia, and spasm. He says it relieves these derangements of the nervous system, without interfering with any one of the functions of organic life, and does not produce the after suffering of misery, which follows many opiates.

Not prescribed in powder.

(Dub. U.S. Belg.; Pr. Fructus; not in others.)

Preparations.

EXTRACTUM.

Indian Hemp, in coarse powder, 1; Rectified Spirit, 5: macerate seven days, press out the tincture, distil off the spirit, and evaporate.

Dose.—¼ to 1 gr. in pill.

(Dub. U.S.: not in others.)

TINCTURA.

Extract of Indian Hemp, 1; Rectified Spirit, 20: dissolve. =(1 in 20).

(Same as Dub. and U.S.; not in others.)

20 minims contain 1 grain of extract.

Dose.—5 to 20 minims with 1 drm. of mucilage, adding 1 oz. of water.

☞ The tincture should be previously triturated with the mucilage, or the resin will be precipitated by the water.

CANTHARIS.

CANTHARIDES.

The *Cantharis vesicatoria* dried; collected in Spain, France, Russia, Sicily, and Hungary. Contains a crystalline principle, called Cantharidine.

Test.—Free from mites.

The powder should be dry and kept closely corked, for if at all damp it is apt to acquire a putrid odour.

Medicinal Properties.

Externally its effects are rubefacient and irritant; by continued application it is vesicant. For the latter purpose the plaster or liniment is generally used, and is especially effective in inflammation of deep-seated parts, as in pleuritis, pericarditis, pneumonia, etc. It acts for a longer period, and is less irritating to the patient than Ammoniacal or Acetic Acid embrocations. Internally as tincture in chronic affections of the nervous system, paraplegia, etc. It has a

diuretic effect, and is given in gleet or other mucous discharges; but it should be given cautiously, for it sometimes produces strangury.

(In all the Pharmacopœias.)

It is used as an application to ringworm. It is the basis of most of the applications used to increase the growth of hair.

In chronic inflammation of the bladder it should *not* be used as a counter-irritant, from its irritating effects on the urinary organs when absorbed by the skin. A solution of Nitrate of Silver (½ oz. to 1 oz. of water) is to be preferred.

Preparations.

EMPLASTRUM.

Cantharides in very fine powder, 12; Yellow Wax, 7½; prepared Suet, 7½; Resin, 3; prepared Lard, 6: melt the four last together, and stir in the first. =(1 in 3).

(Same as Lond. Austr. and Dub.; Edin. Pr. Belg. Fr. 1 in 4; not in U. S.)

Oiled tissue-paper, or very thin silk, is sometimes placed between the plaster and the skin, to prevent irritant action on the urinary organs.

EMPLASTRUM CALEFACIENS.

Cantharides in coarse powder, 4; Boiling Water, 20; expressed Oil of Nutmeg, 4; Yellow Wax, 4; Resin, 4; Soap Plaster, 52; Resin Plaster, 32: infuse the Cantharides in the water six hours, strain and press through calico, and evaporate till reduced to one-third, then add the rest and melt all together. =(1 in 30).

(Dub. 1 in 32; U.S. Emplastrum Picis cum Cantharide, 1 in 39; not in others.)

LINIMENTUM.

Powdered Cantharides, 8; Acetic Acid, 4; Ether, 20: macerate the Cantharides in the Acetic Acid twenty-four hours, and add Ether to percolate 20. =(1 in 2½).

(Dub. Cantharides, 3, Olive Oil, 12, digest and strain; U.S. Cantharides, 1, Oil of Turpentine, 8, digest and strain; not in others.)

Applied with a camel-hair brush speedily produces a blister. The Dub. Liniment will produce a blister, without much pain, in six hours, if a double fold of lint is soaked in it and applied.

TINCTURA.

Cantharides in coarse powder, 1; Proof Spirit, 80: macerate forty-eight hours with ¾ of the spirit, agitating occasionally, pack in a percolator and let it drain, then pour on the remaining spirit; when it ceases to drop, wash the marc with spirit to make up 80. =(1 in 80).

(Same as Lond. Edin. and Dub.; Austr. Fr. and Pr. with Rectified Spirit, 1 in 7; Belg. 1 in 5, also an ethereal tincture; U.S. 1 in 30.)

Dose.—5 to 20 minims.

UNGUENTUM.

Cantharides in fine powder, 1; Olive Oil, 6; Yellow Wax, 1: digest the Flies in the Oil for twelve hours, and for ¼ hour at 212°; strain, and add the melted Wax. =(1 in 8).

(Lond. Edin. Dub. nearly of the same strength; Lond. boiled in water, and Resin Cerate added; Edin. a mixture with Resin Ointment; Dub. heated in Oil, strained, and melted with Wax and Spermaceti; Belg. 1 in 6; Pr. 1

in 7; Fr. Pommade Épispastique Verte, 1 in 33, and P. E. Jaune, 1 in 16; not in U. S.

Employed to promote discharge from a blistered surface.

Not Officinal.

LINIMENTUM CRINALE.—Cantharidine, 1 gr.; Acetic Ether, ¼ oz., dissolve and add; Rectified Spirit, 3 oz.; Castor Oil, 1 oz.; Oil of Lavender, 15 minims.

This Liniment is highly recommended to be applied to the head where the hair is falling off, and is said even to cause it to grow on bald places; but after applying it a few times the head should be washed, or it may accumulate and cause too much irritation.

HAIR WASH.—Vinegar of Cantharides, 1; Glycerine, 1; Tincture of Bark, ½; Orange Flower-water, 8; Rose Water, 8: mix.

The following are also employed as blistering agents:—

Brown's Blistering-Tissue; Paper d'Albespeyres, No. 1, 2, and 3: 3 is the strongest.

CAPSICUM.

CAPSICUM.

The ripe fruit of the *Capsicum fastigiatum* dried; imported from the coast of Guinea, and from the East and West Indies, and distinguished in commerce as Guinea Pepper and Pod Pepper.

Medicinal Properties.

A powerful stimulant, used chiefly as a condiment. In intermittent fevers with Quinine, in low forms of fever, diarrhœa, cholera, and in the black vomit of hot climates. In dyspepsia and sea-sickness. Used as a gargle in scarlet fever and malignant sore-throat. Externally as a rubefacient.

(In all the Pharmacopœias except Fr.)

Dose.—1 to 5 grs. of the powder in a pill, or in less quantity in dinner pills.

Preparation.

TINCTURA.

Capsicum, bruised, 1; Rectified Spirit, 27: macerate twenty-four hours with three-fourths of the spirit, agitating occasionally, pack in a percolator, and let it drain, then pour on the remaining spirit; as soon as it ceases to drop, wash the marc with spirit to make up 27. =(1 in 27).

(About the same as Lond. Edin. and U. S.; half the strength of Dub.; Austr.; Belg. Tinct. Piper. Hispan. 1 in 6; not in others.)

Dose.—10 to 20 minims.

For a gargle, 1 drm. in 8 oz. of Infusion of Roses.

Not Officinal.

LINIMENTUM CAPSICI (the Concentrated Tincture of Dr. Turnbull).—Capsicum, 1; Rectified Spirit, 3: macerate seven days, and strain.

Used externally for swollen chilblains and as a counter-irritant, but not when the skin is broken. For chilblains, saturate a piece of sponge or flannel with the tincture, and rub the chilblain well until a strong tingling is produced. Continue daily until recovery. A small dossil of lint or cotton, dipped into the tincture, is an excellent remedy for toothache.

Tissue paper imbued with a strong tincture of this drug is sold as a sinapism, to produce counter irritation.

CARBO ANIMALIS PURIFICATUS.

PURIFIED ANIMAL CHARCOAL.

Bone Black deprived of its earthy salts.

Bone Black, 16; Hydrochloric Acid, 10; Distilled Water, a sufficiency.

Digest the Bone Black in the acid mixed with twice the quantity of water in a moderate heat for two days, thoroughly wash, dry, and heat to redness.

Test.—If it contains Carbonate of Lime, Hydrochloric Acid will cause effervescence, and the solution obtained will give a precipitate with Carbonate of Ammonia; and if Phosphate of Lime be present, the acid will dissolve the salt, and yield it as a precipitate on the addition of Ammonia. When burned at a high temperature, with free access of air, it leaves scarcely any residue.

Medicinal Properties.

Dr. Garrod, and Dr. Rand of Philadelphia, state that it has the property of counteracting the poisonous effects of Morphia, Strychnia, and Aconitia. Dr. Rand says that these alkaloids may be swallowed with impunity if mixed in due proportion with purified Animal Charcoal. It destroys the fœtor of ulcers, etc. It is much used as a decolorizing agent in various pharmaceutical processes.

(Edin. Dub. Austr. Belg. U. S.; not in others.)

A convenient mode of application to putrid sores has been furnished by Messrs. Pichot et Cie., Paris, in their "Papiers Carbonifères," and a softer substance called Charpie, also Sachets de Charpie Carbonifères.

CARBO LIGNI.

WOOD CHARCOAL.

Wood charred by exposure to a red-heat without access of air.

The Oak, Beech, and Hazel are chiefly employed.

(In all the Pharmacopœias except Fr.)

Test.—When burned at a high temperature, with free access of air, it leaves not more than 2 per cent. of ash.

Medicinal Properties.

Antiseptic and absorbent. Given in cases of distention by intestinal gas, and in foul eructations; also in dyspepsia attended with flatus and acidity. Externally, as a poultice, it absorbs the fœtor of ulcers.

Dose.—10 to 20 grs. or more.

Preparation.

CATAPLASMA CARBONIS.

Wood Charcoal, 1; Bread, 4; Linseed Meal, 3; boiling Water, 20: soak the bread in the water near the fire, add the Linseed Meal and half the Charcoal, stirring to a soft poultice, sprinkling the remainder of the charcoal on the surface.

(Rather stronger than Lond.; not in others.)

CARDAMOMUM.

CARDAMOMS.

The seeds of the *Elateria Cardamomum* contained in their capsules, which are to be removed when the seeds are employed. Cultivated in Malabar.

Medicinal Properties.

Cordial and carminative; less heating and stimulating than some others. A useful adjuvant to purgatives to prevent griping.

Dose.—Of the seeds powdered, 5 to 20 grs.

1 of fruit yields ¾ of seeds.

(In all the Pharmacopœias except Austr. and Fr.)

Contained in Extractum Colocynthidis Compositum, Pulvis Aromaticus (*see* CINNAMOMUM), Tinctura Gentianæ Composita, and Tinctura Rhei.

Preparation.

TINCTURA COMPOSITA.

Cardamom seeds, bruised, 1; Caraway, bruised, 1; Raisins, 8; bruised Cinnamon, 2; Cochineal in powder, ½; Proof Spirit, 80: macerate forty-eight hours with ¾ of the spirit, agitating occasionally, pack in a percolator, and let it drain, pour upon it the remainder of the spirit, and when it ceases to drop wash the marc with spirit to make up 80. =(1 in 80).

Dose.—½ to 2 drms.

(50 per cent. stronger than Lond. Edin. and Dub. in Cardamoms and Caraway, but weaker than Lond. and stronger than Edin. and Dub. in Cochineal; Dub. contains no Raisins; U.S. 1 in 50, contains Honey, and is made with the *fruit* of the Cardamoms; Belg., Tinctura Simplex; not in others.)

Contained in Decoctum Aloes Compositum.

CARUI.

CARAWAY.

The Fruit of the *Carum Carui*, dried. Cultivated in England and Germany.

Medicinal Properties.

Aromatic, stomachic, and carminative. Used occasionally in flatulent colic, and as an adjuvant to other medicines.

(Lond. Edin. Dub. U. S.; not in others.)

Contained in Tinctura Sennæ.

Preparations.

AQUA.

Caraway, bruised, 1; Water, 16: distil 8. =(1 in 8).

(Same as Lond.; Dub. made with essence, containing 12 minims of oil to 20 oz.)

Dose.—1 to 2 oz.

OLEUM.

The Oil distilled in England, sp. g. ·946.

Added to purgative medicines to prevent griping.

Dose.—2 to 4 minims.

(Lond. Dub. Pr. Belg. U. S.; not in others.)

CARYOPHYLLUM.

CLOVES.

The unexpanded flower-bud of the *Caryophyllus aromaticus* dried; cultivated in Penang, Bencoolen, and Amboyna.

Test.—It emits, when indented with the nail, an oil of a strong fragrant odour. Becomes black with Salts of Iron—indicating astringent matter.

(In all the Pharmacopœias; Fr. Girofles.)

Medicinal Properties.

Stimulant, aromatic, and carminative; sometimes administered in substance or infusion to correct nausea, vomiting, and flatulency, and to promote digestion. But chiefly used to qualify other medicines.

The powder contained in Pulvis Aromaticus; the oil in Confectio Scammonii.

Dose.—In substance, 5 to 10 grs.

Preparations.

INFUSUM.

Cloves, bruised, 1; boiling Distilled Water, 40: infuse half an hour, and strain. =(1 in 40).

(Same as Dub.; rather stronger than Lond. and Edin.; U.S. 1 in 73; not in others.)

Dose.—1 to 2 oz.

OLEUM.

The Oil distilled in England, sp. g. 1·034 to 1·061: is white at first, and becomes coloured by keeping. Soluble in Alcohol, Ether, and strong Acetic Acid.

Used as an adjunct to purgatives; or applied to carious teeth.

(In all the Pharmacopœias.)

Dose.—1 to 4 minims.

CASCARILLA.

CASCARILLA.

The Bark of the *Croton Eleuteria*, from the Bahamas.

Medicinal Properties.

Aromatic, stomachic, and tonic. Used in dyspepsia, chronic diarrhœa, dysentery, and in recovery from acute diseases. Formerly used in intermittent fevers, but now almost entirely superseded by Cinchona.

(In all the Pharmacopœias.)

Dose.—In powder, 10 to 30 grs.

Preparations.

INFUSUM.

Cascarilla in coarse powder, 1; boiling Distilled Water, 10: infuse an hour, and strain. =(1 in 10).

(Same as Dub.; rather stronger than Lond. and Edin.; 50 per cent. stronger than U. S.; not in others.)

Dose.—1 to 2 oz.

This infusion quickly changes, and will scarcely keep good for a day in summer.

1 oz. of Infusion is of about the same therapeutical strength as ¼ oz. of Tincture, but the Infusion is by far the most aromatic, and when it is prescribed with an aromatic Tincture keeps good.

TINCTURA.

Cascarilla, bruised, 1; Proof Spirit, 8: macerate forty-eight hours with 6 of the spirit, agitating occasionally; pack in a percolator, let it drain, and pour on the remainder of the spirit, and when it ceases to drop, wash the marc, press, filter, and make up 8. =(1 in 8).

Dose.—½ to 2 drms.

(Same as Lond. Edin. Dub.; Fr. 1 in 4; Pr. and Belg. 1 in 5½; not in others.)

This tincture is frequently prescribed with the diluted mineral acids, and then the resin is separated, which fills the mixture with minute floccules; it is therefore better to give acids in the infusion.

CASSIA.

CASSIA PULP.

The pulp of the pods of *Cassia Fistula*, imported from the East Indies, or recently extracted from pods imported from the East or West Indies.

Medicinal Properties.

Laxative. Useful in small doses for habitual costiveness. Large doses occasion nausea, flatulence, and griping; generally given in combination.

(Lond. Edin. Austr. Belg. Fr. U. S., Cassia Fistula; not in others.)

Dose.—As a laxative, 60 to 120 grs.; as a purgative, 1 to 2 oz.

Contained in Confectio Sennæ.

CASTOREUM.

CASTOR.

Preputial follicles of the Beaver dried, and the oil sacs rejected, imported from Hudson's Bay.

Medicinal Properties.

Moderately stimulant and antispasmodic. In large doses it quickens the pulse, and increases the heat of the skin, but as usually employed in small doses, it chiefly affects the nervous system. Used in low forms of fever with nervous symptoms, in spasmodic diseases, in hysteria and epilepsy.

Dose.—Of the powder, 5 to 15 grs.

Preparation.

TINCTURA.

Castor, in coarse powder, 1; Rectified Spirit, 20: macerate seven days, strain, and wash the marc with spirit sufficient to make up to 20. =(1 in 20).

Dose.—½ to 2 drms.

(Lond. Edin. 1 in 14½; U. S. 1 in 15; Austr. and Pr. 1 in 8; Belg. 1 in 11; not in Dub.)

CATAPLASMATA.

The CATAPLASMS were contained in the London Pharmacopœia only, and are adopted by the Brit. Ph. with very slight modification. The formulæ will be found under the names of the substances from which they are prepared.

Page 59. CATAPLASMA CARBONIS.
79. CATAPLASMA CONII.
66. CATAPLASMA FERMENTI.—*See* CEREVISIÆ FERMENTUM.
135. CATAPLASMA LINI.
198. CATAPLASMA SINAPIS.
203. CATAPLASMA SODÆ CHLORATÆ.

Cataplasms that are not officinal are enumerated in the Index.

CATECHU NIGRUM.

BLACK CATECHU.

An extract of the inner wood of the *Acacia Catechu*, dried and imported from Pegu. It generally occurs in irregularly-shaped blackish-brown masses, astringent, and bitter in taste. Commercially known as Cutch.

Solubility. Of 100 parts, only 88 are dissolved by cold Water, the solution being very turbid. 60 parts of Isinglass precipitate the whole of the astringent matter.

Test.—Sp. g. 1·450.

Medicinal Properties.

A powerful astringent. Used chiefly in diarrhœa and some forms of atonic dyspepsia accompanied with pyrosis; also as a remote astringent for hæmorrhage and mucous discharges. Lozenges are the best medium for administering it in relaxed conditions of the uvula.

(In all the Pharmacopœias; Fr. Cachou.)

Dose.—5 to 15 grs.

The Pharmacopœia allows either black or pale Catechu to be used.

CATECHU PALLIDUM.

PALE CATECHU.

An extract of the leaves and young shoots of the *Uncaria Gambir*, prepared at Singapore and in the Eastern Archipelago.

It generally occurs in cubical reddish-brown pieces, porous, bitter and astringent in taste.

Solubility: entirely soluble in boiling Water; the solution, when cold, is not rendered blue by Iodine. Of 100 parts, only 60 are dissolved by cold

Water, and the solution is bright. 30 parts of Isinglass precipitate the whole of the astringent matter.

Test.—Sp. g. 1·390.

(Edin. Pr.; not in others.)

Catechucin is not precipitated by Gelatine.

Medicinal Properties.

Similar to those of Black Catechu, but possessing only half the amount of astringency.

Dose.—10 to 30 grs. in powder.

Preparations.

INFUSUM CATECHU.

Catechu, in coarse powder, 160 grs.; Cinnamon, bruised, 30 grs.; boiling Distilled Water, 10 oz.: infuse half an hour, and strain. =(1 in 27).

(Same as Dub.; Lond. Compositum; Edin. with Syrup; U. S.; all of nearly the same strength; not in others.)

Dose.—1 to 2 oz.

PULVIS CATECHU COMPOSITUS.

Catechu, 4; Kino, 2; Rhatany, 2; Cinnamon, 1; Nutmeg, 1: mix. =(1 in 2½).

(Not in Lond.; Dub. same strength, without Rhatany; not in others.)

Dose.—15 to 30 grs. Aromatic, astringent.

TINCTURA CATECHU.

Catechu, in coarse powder, 1¼; Cinnamon, bruised, ½; Proof Spirit, 10: macerate for forty-eight hours with three-fourths of the spirit, agitating occasionally, pack in a percolator, and let it drain, then pour on the remainder of the spirit; when it ceases to drop, wash the marc with spirit to make up 10. =(1 *in* 8).

(Nearly the same as Lond. Edin. and Dub.; Fr. Tinct. Cachou, 1 in 4½; Austr. Belg. and Pr. 1 in 5½; U. S. 1 in 10.)

Dose.—1 to 2 drms.

TROCHISCI CATECHU.

Pale Catechu, in powder, 4 oz.; Refined Sugar, in powder, 32 oz.; Gum Arabic, in powder, 2 oz.; Tincture of Capsicum, 1 oz.; Distilled Water, a sufficiency: divide into 1440 lozenges (¾ gr. in each lozenge).

(In no other Pharmacopœia.)

Dose.—1 to 3 lozenges.

Not Officinal.

*** As the following is advantageously used as a substitute for Catechu, it may be proper to introduce it here.

GUMMI RUBRUM.—An exudation from the bark of the *Eucalyptus rostrata*, imported from Australia.

Solubility. Of 100 parts, 90 are dissolved in cold Water, the solution being clear. 27 parts of Isinglass precipitate all the astringent matter.

This gum adheres with great pertinacity to the mucous surfaces, and it is probably on this account that its astringency is more effective than that of Catechu, although it actually contains a less amount of astringent matter.

Most useful in diarrhœa and dysentery, alone, or with Extractum Belæ Liquidum; externally for lotions, and injections for leucorrhœa, in the proportion of 1 or 2 to 20 of water.

Dose.—5 to 10 grs.

Preparation.

SYRUPUS.—15 grains are contained in each drachm.

Dose.—½ to 1½ drm.

1 oz. of the Syrup to 9 oz. of Water makes an excellent astringent gargle. 1 to 11 for astringent injections.

CERA ALBA.

WHITE WAX.

Yellow wax, bleached by exposure to moisture, air, and light. British and imported.

Test.—Not unctuous to the touch; does not melt under 150° F.

Medicinal Properties.

Chiefly employed as an ingredient in Ointments.

(In all the Pharmacopœias; Fr., Cire blanche.)

Contained in Unguenta Cetacei, Plumbi Subacetatis, and Sabinæ; also in Suppositoria Acidi Tannici, and Morphiæ.

Preparation.

UNGUENTUM SIMPLEX.

White Wax, 2; Prepared Lard, 3; Almond Oil, 3: melt together, and stir till it becomes solid. This is necessary, because the Wax is apt to granulate if the stirring is not continued until it solidifies. =(1 in 4).

(Edin. Olive Oil, 5½, Wax, 2; U. S. Dub. and Austr., Lard, 8, Wax, 2; Belg. Lard, 11, Wax, 2; Pr. Unguentum Cereum, Olive Oil, 5, Wax, 2; Fr. Cérat Simple, Oil of Almonds, 6, Wax, 2.)

Not Officinal.

Cold Cream.—White Wax, 1; Spermaceti, 1; Oil of Almonds, 6; Rose Water, 9. Melt together, by means of a water-bath, the oil, spermaceti, and wax, then gradually add the rose-water and stir till cold.

CERA FLAVA.

YELLOW WAX.

The prepared honeycomb of the hive-bee. British and imported.

Test.—Not unctuous to the touch; does not melt under 140° F.; yields nothing to cold Rectified Spirit; but is entirely soluble in Oil of Turpentine. Boiling Water in which it has been agitated, allowed to get cold, is not rendered blue by Iodine—indicating absence of flour, with which it was formerly mixed; it is, however, rarely adulterated now.

Medicinal Properties.

Chiefly used in medicine as an ingredient of plasters and ointments.

(In all the Pharmacopœias; Fr. Cire.)

Contained in Unguentum Resinæ, Unguentum Terebinthinæ, Unguentum Cantharidis.

Not Officinal.

CERII OXALAS.

OXALATE OF CERIUM.

CeO,C_2O_3; eq. 90.

Introduced into practice by Dr. Simpson, of Edinburgh. Cerium was discovered in 1803, and is now obtained chiefly from a mineral called Cerite, by boiling it in Hydrochloric Acid, evaporating to dryness, redissolving in Water, neutralizing with Ammonia, adding Succinate of Ammonia to throw down the Iron, filtering and throwing down by Ammonia, and, lastly, dissolving the precipitate in Oxalic Acid.

Medicinal Properties.—Sedative, tonic. Of great value in general chronic intestinal eruption, irritable dyspepsia, gastrodynia and pyrosis, in chronic vomiting, and vomiting during pregnancy. In convulsive diseases, as chorea and epilepsy, and it does not produce the discoloration of the skin as does the use of Nitrate of Siver.

Dose.—1 gr. two or three times daily.

CEREVISIÆ FERMENTUM.

BEER YEAST.

The ferment obtained in brewing beer. It consists of numerous microscopic round or oval confervoid cells.

Insoluble in Alcohol or Water.

Medicinal Properties.

Tonic and stimulant. May be used in low states of the nervous system. Externally to prevent the formation of boils and carbuncles. It is, however, superseded by more convenient medicines.

(Lond. Dub. Belg.; not in others.)

Dose.—(Fresh) ½ to 2 oz. every two hours, alone or with water.

Preparation.

CATAPLASMA.

Beer Yeast, 6; Flour, 14; Water (100° F.), 6; mix. Place the mass near the fire till it rises.

(Lond. only.)

Useful in foul and sloughing ulcers.

CETACEUM.

SPERMACETI.

A concretion prepared from the oily matter in the head of the *Physeter macrocephalus*, or sperm whale, inhabiting the Pacific and Indian Oceans.

Nearly pure Cetine, separated by cooling and purification from the oil contained in the head.

Soluble in Fixed Oils and in boiling Ether or Alcohol.

Test.—Scarcely unctuous to the touch; does not melt under 100° F.

Medicinal Properties.

Emollient and demulcent, in chronic diarrhœa. Externally it is much employed for ointments and cerates.

(In all the Pharmacopœias; Fr. Blanc de Baleine.)

Dose.—20 to 60 grs. boiled in milk, two or three times daily.

Preparation.

UNGUENTUM.

Spermaceti, 5; White Wax, 2; Almond Oil, 20, or a sufficiency.

The author finds 17 of Oil sufficient in summer.

(Same as Lond. and Belg.; Dub. made with Lard instead of Oil; not in others.)

A soft, cool dressing, applied on lint.

Not Officinal.

MISTURA CETACEI.—Spermaceti, 60 grs.; Proof Spirit, 15 minims: finely pulverize the Spermaceti by aid of the spirit, and add by degrees half the yolk of an egg, at first only sufficient to make a stiff paste, which should be made very smooth by diligent trituration, then the rest, and make up with water to 4 ounces.

Dose.—1½ oz. Given for coughs, and irritation of the mucous membrane.

CETRARIA.

ICELAND MOSS.

A Lichen, *Cetraria Islandica*, native of the North of Europe.

Medicinal Properties.

Demulcent, nutritious, and slightly tonic. Well calculated for affections of the mucous membrane of the lungs and bowels with debility of the digestive organs or system generally. Useful in chronic catarrhs and other chronic pulmonary affections attended with copious purulent expectoration, in dyspepsia, chronic dysentery and diarrhœa, and in debility succeeding acute disease.

(In all the Pharmacopœias.)

Preparation.

DECOCTUM.

Iceland Moss, 1; Distilled Water, 30: boil ten minutes and strain 20.
=(1 in 20).

(Same as Lond. Dub. and U. S.; Belg. 1 in 25; not in others.)

Dose.—1 to 2 oz.

Not Officinal.

ICELAND MOSS JELLY.—Iceland Moss, 1; Water, 10; boil down to 6, strain and add Sugar, 2.

CHIRATA.

CHIRETTA.

The entire plant of the *Ophelia Chirata*, collected in Northern India, when the fruit begins to form.

Medicinal Properties.

The same as Gentian, but is a purer bitter.

(Edin. Dub. U.S.; not in others.)

Preparations.

INFUSUM.

Chiretta, bruised, 1; Distilled Water (at 120° F.), 40: infuse half an hour and strain. =(1 in 40).

(Edin. and Dub. with boiling water; not in others.)

Dose.—1 to 2 oz.

Salts of Iron may be given in this infusion when a strong bitter is desired as a vehicle.

TINCTURA.

Chiretta, bruised, 1; Proof Spirit, 8: macerate forty-eight hours with 6 of the spirit, agitating occasionally, pack in a percolator and let it drain, then pour on the remaining spirit; when it ceases to drop, press, and wash the marc with spirit to make up 8. =(1 in 8).

(Same as Dub.; not in others.)

Dose.—10 to 40 minims.

CHLORI LIQUOR.

SOLUTION OF CHLORINE.

Chlorine Gas dissolved in half its volume of water, and constituting 0·006 of the weight of the solution.

A yellowish-green fluid, smelling strongly of Chlorine.

Hydrochloric Acid, 6; Black Oxide of Manganese, in fine powder, 1; Distilled Water, 34: put the Manganese into a gas bottle, pour on it the acid mixed with 2 of the water; apply a gentle heat, and pass the gas through a bottle containing 2 more of water into the remainder of the water contained in a large bottle, which is to be kept cold till the gas ceases to come over; the bottle should then be closed by the hand and shaken till the gas is absorbed.

Test.—Sp. g. 1·003. Evaporated it leaves no residue. When 20 grains of Iodide of Potassium, dissolved in 1 ounce of distilled water, are added to 1 fluid ounce of the preparation, the mixed solution acquires a deep red

colour, which requires for its discharge 75 measures of the volumetric solution of Hyposulphite of Soda. Test explained under CALX CHLORATA.

Medicinal Properties.

Stimulant and antiseptic. Useful in advanced stages of scarlatina, typhoid fever, and chronic affections of the liver. Diluted, as a gargle in smallpox, scarlatina, and putrid sore-throat. As a wash for ulcers, cancerous sores, buboes, and large abscesses. Dr. Scott, of India, gave it for biliary obstructions in conjunction with the Nitrohydrochloric Acid baths.

(In all the Pharmacopœias; same as Lond. and Belg.; Pr. contains 0·366 per cent. of Gas; Edin. made by agitating Red Oxide of Lead with Muriate of Soda and Sulphuric Acid.)

Dose.—30 to 60 minims., in a wineglass of water.

Not Officinal.

INHALATIO CHLORINII.—Chlorinated Lime, 2 oz. for one inhalation.

(London Hospital Pharmacopœias.)

CHLOROFORMUM.

CHLOROFORM.

C_2HCl_3; eq. 119·5.

Syn. TERCHLORIDE OF FORMYL.

It is a colourless, limpid, and volatile fluid, the vapour of which is not inflammable, obtained by distillation from a mixture of Chloride of Lime, Caustic Lime, and weak Spirit, the heat being very carefully applied.

Solubility, in Rectified Spirit, 10 in 6; in Ether, 10 in 70; in Water, 10 in 2000; freely in Olive Oil and Spirit of Turpentine. Will not dissolve in Glycerine.

Chloroform has extensive solvent powers, being capable of dissolving Caoutchouc, Gutta-percha, Mastic, Elemi, Tolu, Benzoin, and Copal. Amber, Sandarac, Lac, and Wax, are only partially soluble. It also dissolves Iodine, Bromine, most of the organic alkaloids, the fixed and volatile oils, most resins and fats. It dissolves Sulphur and Phosphorus sparingly.

Test.—Sp. g. 1·496. Is not coloured on its being shaken with Sulphuric Acid. Dropped into water, it suddenly sinks and remains without opacity. It evaporates speedily, and leaves no residue and no unpleasant odour. Evolves no gas when Potassium is dropped into it.

(Same sp. g. as Dub.; Lond. Belg. 1·480; U. S. 1·450 to 1·490; Austr. 1·490 Pr. 1·492 to 1·496; not in others.)

Contained in Linimentum Belladonnæ et Chloroformi (not officinal).

NOTE.—Chloroform should not be prescribed with weak spirits or Glycerine, as it separates. Mixed with strong spirits, Camphor Liniment, Soap Liniment, or Olive Oil, it dissolves.

Medicinal Properties.

Internally, a sedative, narcotic, and antispasmodic. May be given as an antiperiodic, when Bark and Quinine fail to effect a cure. Externally, stimulant in senile gangrene, and sloughing ulcers. The vapour is often applied to the eye, and also to the rectum or vagina. Its chief use, however, is to

produce anæsthesia by inhalation during surgical operations, and the quantity required for each inhalation must depend on the duration of the operation to be performed.

Dose.—1 to 5 minims, with yolk of egg and mucilage, in syrup, or in a teaspoonful of brandy.

Preparations.

LINIMENTUM.

Chloroform, 1; Liniment of Camphor, 1: mix. =(1 in 2).

The Oil in the Camphor Liniment prevents the evaporation of the Chloroform. Stimulating on application to a tender skin.

(U. S. Chloroform, 2; Olive Oil, 4½; not in others.)

SPIRITUS.

Chloroform, 1; Rectified Spirit, 19: dissolve. =(1 in 20).

Formerly called Chloric Ether, and of various strengths.

(U. S. 1 in 10; not in others.)

Test.—Sp. g. ·871.

Dose.—10 to 60 minims. 10 or 20 minims is frequently prescribed to give a sweetness to draughts, and to cover nauseous flavours.

Not Officinal.

LIQUOR CHLOROFORMI CAMPHORATUS.—Camphor, 1; Chloroform, 2: dissolve.

A remedy for toothache, and topically applied for rheumatism.

TINCTURA CHLOROFORMI COMPOSITA.—Chloroform, 4 oz.; Ether, 1 oz.; Rectified Spirit, 4 oz.; Treacle, 4 oz.; Extract of Liquorice, 2½ oz.; Muriate of Morphia, 8 grs.; Oil of Peppermint, 16 minims; Syrup, 17½ oz.; Prussic Acid (2 per cent.), 2 oz.: dissolve the Muriate of Morphia and the Oil of Peppermint in the Rectified Spirit; mix the Chloroform and Ether with this solution; dissolve the Extract of Liquorice in the Syrup, and add the Treacle; shake these two solutions together and add the Prussic Acid.

This has been represented to the author as the composition of the popular medicine called Chlorodyne, and he has published it in order that those who object to prescribe proprietary medicines may be able to prescribe a compound under the above name with a knowledge of its composition.

Dose.—5 to 10 minims.

UNGUENTUM.—Chloroform, 1; Lard, 2: blend quickly by trituration.

INHALATIO.—Chloroform, 15 minims for one inhalation.

(London Hospital Pharmacopœias.)

CINCHONA.

CINCHONA BARK.

From Peru and the western coast of South America.

The Peruvian Bark was known in Europe so early as 1640, on account of its having cured the Countess of Chinchon of a fever. We are ignorant of its early history, and how the Spaniards in Peru became acquainted with its virtues; but the Jesuits secretly conveyed it from Peru to Spain, hence it was called the Jesuits' Bark. Little was further known of it until the time of La Condamine, who visited Peru in 1738, and after whom Humboldt and Bonpland named the plant the *Cinchona Condaminea*. It was long supposed

that only one species existed; a vast number, however, have been discovered, all of which possess medicinal properties, though varying much, both according to their species and the locality of their growth. It has been distinguished in our Pharmacopœias by its colour. The names of only three are now retained—*Cinchona flava, C. pallida*, and *C. rubra*.

The YELLOW BARK of Calisaya contains a fatty matter, cinchonic red, a yellow colouring-matter, Tannin or soluble red colouring-matter, Starch, Lignin, Kinate of Lime, and *Kinate of Quinia, with a comparatively small proportion of Kinate of Cinchonia.* Procured from the forests of Southern Peru.

The PALE BARK of Loxa (*C. Condaminea*) contains the fatty matter, the insoluble red colouring, the yellow colouring, Tannin, Gum, Starch, Lignin, Kinate of Lime, *Kinate of Cinchonia, with a very minute portion of Kinate of Quinia.* From the forests of Loxa, in the republic of Ecuador.

RED BARK contains the fatty matter, a large quantity of the cinchonic red, the yellow colouring-matter, Tannin, Starch, Lignin, Kinate of Lime, and *a large proportion both of Kinate of Quinia and Kinate of Cinchonia.* From the forests at the foot of Chimborazo.

Medicinal Properties.

Cinchona Bark is a decided tonic, with some degree of astringency. It is especially useful in fevers of a remittent and intermittent character, when it should be given, in full doses, shortly before the cold stage. It has been found highly beneficial in many chronic cases, although intermissions do not occur; chronic and pulmonary catarrh, chronic diarrhœa, and in every case of direct debility. It is the most valuable remedy in neuralgia, and one of the most reliable medicines to relieve erysipelas in convalescence from acute diseases. The Pale Bark appears to be best suited to commence with when the stomach is weak and irritable, containing chiefly Quinidine and Cinchonine. The Yellow, however, is a more reliable tonic when the stomach will bear its use. The Red Bark, containing both Cinchonine and Quinine, has been thought, by Dr. Rigby, to be on the whole the most serviceable.

CINCHONA FLAVA.

YELLOW CINCHONA BARK.

The Bark of the *Cinchona Calisaya*, collected in Bolivia and Southern Peru.

It yields 3 to 3½ per cent. of Sulphate of Quinine.

The "Monopoly" Bark is most valued, and should be procured if possible. There are several kinds of Yellow Bark which are of an inferior kind. It would be well therefore to try them by the Pharmacopœia test, which is as follows:—

Test.—Boil 100 grains of the Bark, reduced to a very fine powder, for a quarter of an hour, in 1 fluid ounce of distilled water, acidulated with 10 minims of Hydrochloric Acid, and allow it to macerate for twenty-four hours. Transfer the whole to a small displacement tube, and after the fluid has

ceased to percolate, add at intervals about 1½ ounce of similarly acidulated water, or add until the fluid which passes through is free from colour. Add to the percolated fluid Solution of Subacetate of Lead until the whole of the colouring matter has been removed, taking care that the fluid remains acid in reaction. Filter and wash with a little Distilled Water. To the filtrate add about 35 grains of Caustic Potash, or as much as will cause the precipitate which is at first formed to be nearly redissolved, and afterwards 6 fluid drachms of pure Ether. Then shake briskly, and, having removed the Ether, repeat the process twice with 3 fluid drachms of Ether, or until a drop of the Ether employed leaves, on evaporation, scarcely any perceptible residue. Lastly, evaporate the mixed ethereal solutions in a capsule. The residue, which consists of nearly pure Quinia, when dry, should weigh not less than 2 grains and should be readily soluble in dilute Sulphuric Acid.

Dose.—15 grs. as a tonic; 60 to 120 grs. in ague. May be combined with mineral acids.

Preparations.

DECOCTUM.

Yellow Cinchona Bark, in coarse powder, 1; Distilled Water, 20: boil ten minutes; when cold, strain and pour on the marc sufficient water to make up 16. =(1 in 16).

(Lond. 1⅓ in 16; same as Edin. and U.S.; Belg. 1 in 10; not in others.)

The decoction thus made extracts only about half the active principle of the Bark the marc retains about the same quantity of Quinine as is found in the decoction.

Dose.—1 to 2 oz.

EXTRACTUM LIQUIDUM.

Yellow Cinchona Bark, in coarse powder, 16; Distilled Water, a sufficiency; Rectified Spirit, 1: macerate in the water for twenty-four hours, then percolate to exhaustion, evaporate to 3 at a temperature of 160° F., filter, cool, and add the spirit. Sp. g. 1·100.

1 part of this extract is equal to 4 of Bark.

(Nearly same as Infusum Cinchonæ Spissatum, Lond.; U.S. ⅛ the strength; not in others.) An excellent preparation.

Dose.—10 to 30 minims.

INFUSUM.

Yellow Cinchona Bark, in coarse powder, 1; boiling Distilled Water, 20: infuse two hours, and filter. =(1 in 20).

(Same as Lond.; Edin. Infusum Cinchonæ; U.S. with Acid; Fr. with Liquorice; not in others.)

Dose.—1 to 2 oz.

TINCTURA.

Yellow Cinchona Bark, in coarse powder, 4; Proof Spirit, 20: macerate forty-eight hours with 15 of the spirit, agitating occasionally, pack in a percolator and let it drain, then pour on the remaining spirit, and when it ceases to drop, press, and wash the marc with spirit to make 20. =(1 in 5).

(Same as Lond. Tinctura Cinchonæ, and Edin.; U.S. Tinctura Cinchonæ, 1 in 5; Fr. Teinture de Quinquina, 1 in 4½; Austr. Tinctura Chinæ Simplex, 1 in 7; Belg. Tinctura Chinæ Flava, 1 in 5½; not in Dub.)

Dose.—1 to 2 drms.

QUINIÆ SULPHAS.—*See* QUINIÆ SULPHAS.

CINCHONA PALLIDA.

PALE CINCHONA BARK.

The bark of the *Cinchona Condaminea*, collected about Loxa, in Ecuador.

Yields ·57 per cent. of Quinidia and ·6 per cent. of Cinchonia.

Test.—200 grains of the bark treated in the manner directed in the test for Yellow Cinchona Bark, with the substitution of Chloroform for Ether, should yield not less than 2 grains of alkaloids; chiefly Cinchona and Quinidia, which are dissolved by Chloroform; Ether dissolving only Quinia.

Preparation.

TINCTURA CINCHONÆ COMPOSITA.

Pale Cinchona Bark, in coarse powder, 4; Bitter Orange Peel, cut small and bruised, 2; Serpentary, bruised, 1; Saffron, ¼; Cochineal, ⅛; Proof Spirit, 40: macerate forty-eight hours with 30 of spirit, agitating occasionally, pack in a percolator and let it drain, then pour on the remainder of the spirit; when it ceases to drop, press, and wash the marc with spirit to make up 40. =(1 in 10).

(Same as Lond. Edin. Dub. U.S. and Belg.; Pr. with Gentian, Orange, and Cinnamon water; not in others.)

Dose.—1 to 2 drms.

CINCHONA RUBRA.

RED CINCHONA BARK.

The bark of the *Cinchona succirubra*, collected on the western slopes of Chimborazo.

Red Bark yields 2 per cent. of Sulphate of Quinia and 1 per cent. of Sulphate of Cinchonia.

Test.—100 grains of the bark, treated in the manner directed in the test for Yellow Cinchona Bark with the substitution of Chloroform for Ether, yield not less than 2 grains of alkaloids—Chloroform dissolves all the alkaloids of Cinchona Bark.

CINNAMOMUM.

CINNAMON.

The inner bark of shoots from the truncated stock of the *Cinnamomum Zeylanicum*, imported from Ceylon, and distinguished in commerce as Ceylon Cinnamon.

(In all the Pharmacopœias; Austr. and Pr. *Cinnamomum acutum*; Fr. Cannelle.)

Medicinal Properties.

Warm and cordial to the stomach, carminative and astringent, chiefly used as an adjuvant to other medicines. Often employed in diarrhœa, with chalk. Efficacious in internal hæmorrhage.

Dose of the powder, 10 to 20 grs.

Contained in Tinctura Lavandulæ Comp.

Preparations.

AQUA.

Cinnamon, bruised, 1; Water, 16; distil, 8. =(1 in 8).

(Same as Lond. and Edin.; Dub. made with essence; U. S. Pr. and Belg. 1 in 10; Austr. 1 in 6; Fr. Eau de Cannelle, 1 in 4.)

Dose.—1 to 2 oz.

OLEUM.

The Distilled Oil imported. Yellowish when recent, gradually becoming red.

(In all the Pharmacopœias.)

Possesses the carminative qualities of Cinnamon without its astringency.

Dose.—1 to 4 minims in pill, with powdered Mastich, or in sugar, or emulsion.

PULVIS AROMATICUS.

Cinnamon, 4; Nutmeg, 3; Saffron, 3; Cloves, 1½. Cardamoms, free from capsules, 1; Refined Sugar, 25, all in fine powder: mix. =(1 in 9, nearly).

Dose.—½ to 1 drm.

The Pulvis Cinnamomi Compositus of Lond. contained Cinnamon, Cardamoms, Ginger, and Long Pepper. This preparation contains all the materials of the Lond. Confectio Aromatica minus the Chalk; Edin. and Belg. equal parts of Ginger, Cinnamon, and Cardamoms; Dub. and U. S. Cinnamon 2, Ginger 2, Cardamoms 1, Nutmeg, 1; Pr. Cinnamon 2, Cardamoms 1, Ginger ½; not in Austr. and Fr.

TINCTURA.

Cinnamon, in coarse powder, 1; Proof Spirit, 8; macerate forty-eight hours with 6 of the spirit, agitating occasionally, pack in a percolator and let it drain, then pour on the remaining spirit; when it ceases to drop, press, and wash the marc with spirit to make up 8. =(1 in 8).

Dose.—1 to 2 drms.

(Lond. and Edin. 1 in 11½; U. S. 1 in 10; Austr. 1 in 7; Belg. Pr. 1 in 5½; not in Dub.)

COCCULUS.

COCCULUS INDICUS.

The fruit of the *Anamirta Cocculus*, produced in Malabar and the Eastern Archipelago.

Test.—The seeds should fill at least two-thirds of the shell.

Medicinal Properties.

Acrid, narcotic; never given internally.

Preparations.

UNGUENTUM.

Seeds of *Cocculus Indicus*, well bruised, 1; Prepared Lard, 5½: mix. =(1 in 6½).

(Same as Edin.; not in others.)

One of the best applications for ringworm on the scalp. It should be applied night and morning, and washed away with soap-and-water at least once a day. (Dr. Christison.) Used in chronic skin diseases and to destroy pediculi.

COCCUS.

COCHINEAL.

The female insect, *Coccus Cacti*, dried; reared in Mexico and Teneriffe.

(In all the Pharmacopœias; Austr. Belg. Pr. Coccionella; Fr. Cochenille.)

Medical Properties.

Anodyne, given in whooping-cough.

Dose.—½ gr. three times a day.

Preparation.

TINCTURA.

Cochineal, in powder, 1; Proof Spirit, 8: macerate seven days; strain, and wash the marc with spirit to make up 8. =(1 in 8).

(Dub. 1 in 10; Belg. 1 in 5½; not in others.)

Dose.—30 to 90 minims twice a day. (Used chiefly for colouring medicines.)

Not Officinal.

MIXTURE FOR WHOOPING-COUGH.—Cochineal, 10 grs.; Subcarbonate of Potash, 20 grs.; Sugar ½ oz.; Water 4 oz: rub together, and strain.

Dose.—15 minims four times a day for a child one year old; 30 minims two years; 60 minims four years.

Boiled apples in milk given for the food.

COLCHICI CORMUS.

COLCHICUM CORM.

The fresh corm or bulb of the *Colchicum autumnale*, collected about the end of June, stripped of its coats, sliced transversely, and dried at a temperature not exceeding 150° F.

Test.—Best tested by its bitterness.

Medicinal Properties.

Produces increased action of some of the secreting organs; the action of the skin is also increased; that of the heart diminished. Employed chiefly in gout, possessing a power of controlling the pain and inflammation. Affords relief in acute rheumatism and other inflammatory affections. May be used combined with other purgatives in cases of imperfect action of the liver. It has also been used in dropsy. It is apt to produce depression if given on an empty stomach.

Dose of the powder, 2 to 8 grs. every four or six hours.

Preparations.

EXTRACTUM COLCHICI.

The expressed juice of fresh Colchicum Corms, cleared of deposit, strained, and evaporated to a proper consistence at a temperature of 160° F.

100 pounds of Corms yield 4 pounds of Extract.

Dose.—1 to 2 grs.

(Same as Lond.; not in others.)

EXTRACTUM COLCHICI ACETICUM.

Acetic Acid, 1; Crushed fresh Corms, previously peeled, 18½: stir together, press and strain through flannel, and evaporate to a soft extract.

(Same as Lond. and Edin., but without the starch; Dub. and U. S. made of Dried Corms; not in others.)

100 pounds of Corms yield 5½ pounds of Extract.

Dose.—1 to 2 grs., in pill, with an equal weight of Liquorice Powder.

Frequently prescribed with Dover's Powder to relieve painful gout.

VINUM COLCHICI.

Colchicum Corms, dried and sliced, 4; Sherry, 20: macerate seven days, and strain. =(1 in 5).

(Same as Lond. and Edin.; U. S. 1 in 2½; not in others.)

Dose.—20 to 40 minims.

COLCHICI SEMEN.

COLCHICUM SEED.

The seed fully ripe.

Medical Properties.

Similar to those of the bulb, but considered by some to be superior both in certainty of effect and in mildness of operation.

Preparation.

TINCTURA COLCHICI SEMINIS.

Colchicum Seed, bruised, 1; Proof Spirit, 8: macerate forty-eight hours with 6 of the spirit, agitating occasionally, pack in a percolator and let it drain, then pour on the remainder of the spirit; when it ceases to drop, wash the marc with spirit to make up 8. =(1 in 8).

(Same as Lond. Edin. and Dub.; Pr. 1 in 5½; Belg. 1 in 6; Austr. and U. S. 1 in 7; not in others)

Dose.—15 to 30 minims.

Not Officinal.

Tinctura Colchici Composita (Lond.).—Colchicum Seeds, bruised, 1; Aromatic Spirit of Ammonia, 8: macerate for seven days, then press and strain.

Dose.—15 to 30 minims.

Tinctura Colchici Florum.—Fresh Juice of the Flowers, 2; Brandy, 1.

Dose.—10 to 30 minims. This preparation closely resembles the Eau Médicinale.

Vinum Seminis Colchici (Pr.).—Seeds, 5; Sherry wine, 24: digest eight days.

Dose.—20 minims.

COLLODIUM.

COLLODION.

Pyroxylin, $C_{36}\left.\begin{matrix}H_{22}\\8\\N\\O_4\end{matrix}\right\}O_{30}$, dissolved in Ether, mixed with one-third of its volume in Rectified Spirit.

The Pyroxylin as made with Nitric Acid sp. g. 1·500 is explosive, and not soluble; but if made with Nitric Acid sp. g. 1·420, it is then soluble as above described.—*See* PYROXYLIN.

Pyroxylin, 1; Ether, 36; Rectified Spirit, 12: mix the Ether and Spirit, then add the Pyroxylin. In a few days decant the clear solution.

(U. S. Pyroxylin, 1; Ether, 28; Rectified Spirit, 4. Belg. Pyroxylin, 1; Ether, 29; Rectified Spirit, 3. Pr. Pyroxylin, 1; Ether, 22; Rectified Spirit, 3.)

Test.—Colourless and highly inflammable, with ethereal odour; it dries rapidly upon exposure to the air, and leaves a thin transparent film, insoluble in Water or Rectified Spirit. Poured on the skin, contracts in drying.

Medicinal Properties.

Chiefly used for coating diseased or wounded parts with a protecting film. Applied to erysipelas when caused by external injury, such as wounds, etc.

Not Officinal.

A very pliable collodion may be made of 300 parts of Collodion, 12 of Venice Turpentine, and 6 of Castor Oil. Applied to burns, ulcers, and abrasions of the skin.

COLOCYNTHIS.

COLOCYNTH.

The dried and decorticated fruit of the *Citrullus Colocynthis*, freed from the seeds; imported chiefly from Smyrna, Trieste, France, and Spain.

(In all the Pharmacopœias; Fr. Coloquinte.)

Medicinal Properties.

It is a powerful drastic, hydragogue carthartic, dangerous in large doses. Used in obstinate constipation.

Dose.—5 to 10 grs. Not often prescribed alone, generally in combination as in Pil. Coloc. Co.

Preparations.

EXTRACTUM COMPOSITUM.

Colocynth, free from seeds, 6; Extract of Socotrine Aloes, 12; Scammony, or Resin of Scammony, in powder, 4; Hard Soap, in powder, 3; Cardamoms, freed from the capsules, in fine powder, 1; Proof Spirit, 160: macerate the Colocynth in the spirit for four days; press out the tincture, and add to it the Extract of Aloes, the Soap, and the Scammony. Distil off the spirit, and evaporate the residue by water bath to a pilular consistence, adding the Cardamoms towards the end of the process. =(1 in 4½).

It is peculiar to Lond., and was called Pil. Coloc. Comp. in the last edition, but in former editions by the above name.

Dose.—2 to 5 grs. with 2 or 3 grs. of Extract of Hyoscyamus, to prevent griping.

PILULA COMPOSITA.

Colocynth in powder, 1; Barbadoes Aloes, in powder, 2; Scammony, in powder, 2; Sulphate of Potash, in powder, ¼; Oil of Cloves, ¼; Distilled Water, a sufficiency: mix. Dr. Gregory's favourite pill. =(1 in 6).

(Not in Lond.; the London Pill is identical with Extr. Col. Comp.; same as Edin. Pil. Colocynthidis, except as regards the Socotrine Aloes and Rectified Spirit; contains twice as much Scammony as Dub.; not in others.)

Dose.—5 to 10 grs.

PILULA COLOCYNTHIDIS ET HYOSCYAMI.

Colocynth, in powder, 1; Barbadoes Aloes, in powder, 2; Scammony, in powder, 2; Sulphate of Potash, in powder, ¼; Oil of Cloves, ¼; Extract of Hyoscyamus, 3; Distilled Water, a sufficiency: mix.

=(Pil. Coloc. Co. 6; Extr. Hyos. 3).

(Nearly the same as Edin.; not in others.)

Dose.—5 to 10 grs.

CONFECTIONES.

CONFECTIONS.

The following Confections, which were in previous Pharmacopœias, are now omitted:—

Confectio Amygdalæ (now called *Pulvis Amygdalæ Compositus*), Confectio Aromatica (now *Pulvis Cretæ Aromaticus*), Confectio Aurantii, Confectio Cassiæ, Confectio Catechu, Confectio Opii, Confectio Rutæ.

The following are now contained in the British Pharmacopœia, the formulæ for which will be found in this volume under the names of the substances from which they are prepared:—

Page 163. CONFECTIO PIPERIS. Same strength as Lond. and Edin., but contains Caraway instead of Elecampane and Fennel.

183. CONFECTIO ROSÆ CANINÆ.
184. CONFECTIO ROSÆ GALLICÆ. } Dose, 1 drm. or more.

192. CONFECTIO SCAMMONII. Same as Dub. Dose, 10 to 30 grs.

195. CONFECTIO SENNÆ. Same strength as Lond. Edin. and Dub., but the ingredients differ in their condition. Dose ½ to 2 drms.

209. CONFECTIO SULPHURIS. Dub. modified. Dose, 2 to 4 drms.

215. CONFECTIO TEREBINTHINÆ. Dub. Dose, 1 to 4 drms. for adults; 1 drm. for children.

CONIUM.

HEMLOCK.

The fresh leaves and branches of the *Conium maculatum*, gathered when the fruit begins to form, and the leaves dried in the sun at a temperature not exceeding 120° F.

Test.—The leaf rubbed with Caustic Potash gives out strongly the odour of Conia.

Medicinal Properties.

Powerfully narcotic; anodyne, antispasmodic, and deobstruent. Used in chronic enlargement of the liver, chronic rheumatism, syphilis, neuralgic affections; allays the cough in bronchitic affections, pertussis, and phthisis, In the case of poisoning animals by Hemlock the brain is found free from engorgement, which shows that its action on that organ must be very different from the action of Opium. May be applied externally in the form of a cataplasm to ease pain.

Dose.—3 to 10 grs. in powder.

Preparations.

CATAPLASMA.

Hemlock Leaf, in powder, 1; Linseed Meal, 3; boiling Water, 10: mix the ingredients and add them to the water gradually, constantly stirring.

(Only in Lond. and made with Extract.)

EXTRACTUM.

Inspissated juice of the fresh plant.

100 lb. plant yield 50 lb. juice = 5½ lb. extract; 100 lb. leaves, when dried, weigh 21 lb.

(Same as Lond. Edin. Dub. and U. S.; Austr. Extr. Siccum; Fr. Extrait de Ciguë, from clear juice, also from unstrained juice; not in others.)

Dose.—4 to 8 grs.

SUCCUS.

Express the juice from bruised fresh leaves; to every 3 measures add 1 of Rectified Spirit. Filter after seven days.

12 minims = 1 grain of extract.

A new preparation.

(Belg. clarified, but without spirit; Fr. without spirit; not in others.)

Dose 30 to 60 minims.

CONII FRUCTUS.

HEMLOCK FRUIT.

The ripe fruit dried.

Medicinal Properties.

Narcotic and somewhat sedative to the circulation.

Preparation.

TINCTURA.

Hemlock Fruit, dried and bruised, 1; Proof Spirit, 8: macerate forty-eight hours with 6 of the spirit, agitating occasionally, pack in a percolator and let it drain, then pour on the remaining spirit; when it ceases to drop, wash the marc with spirit to make up 8. = (1 in 8).

(Lond. with dried leaves; Edin. fresh leaves and Cardamoms; Belg. 1 in 4½; Fr. and U. S. dried and fresh leaves; not in others.)

Dose.—½ to 1 drm.

Applied externally to glandular swellings.

A new preparation, much stronger than Lond. and Ed.; the ripe fruit makes the best Tincture.

COPAIBA.

COPAIVA.

The Oleo-Resin obtained by incision from the trunk of the *Copaifera multijuga,* chiefly from the province of Pará in Brazil.

Solubility, entirely in Rectified Spirit, Ether, and the fixed and volatile oils; insoluble in water.

Test.—Sp. g. ·950 to 1·000. Dissolves one-fourth of its weight of Carbonate of Magnesia by the aid of heat, and remains transparent.

(In all the Pharmacopœias; Fr. Baume de Copahu.)

Medicinal Properties.

Stimulant. Acts upon the mucous membrane, more particularly on that of the genito-urinary organs and of the rectum. Used in gonorrhœa and gleet. Useful in chronic bronchitis when there is excessive mucous secretion.

To be avoided in febrile states of the system.

Dose.—20 to 60 minims three times a day.

Given floating on Aromatic water, or sometimes with Spirit of Nitrous Ether. A less disagreeable form is that of emulsion, prepared by rubbing the Copaiba first with mucilage, or the yolk of an egg and sugar, and then with some aromatic water.

Both Copaiba and the Oil can be rendered emulsive by trituration with mucilage. 1¼ oz. of mucilage should be used for every ounce of Copaiba, and either Cinnamon or Peppermint Water, with Tinct. of Orange or Ginger, covers the unpleasant taste. They are sometimes put into capsules.

Preparation.

OLEUM.

The Distilled Oil. Colourless, or pale yellow.

(Lond. Edin. and U. S.; not in others.)

Dose.—15 to 60 minims.

CORIANDRUM.

CORIANDER.

The ripe fruit of the *Coriandrum sativum* dried; cultivated in Britain.

Medicinal Properties.

Stimulant, aromatic, and carminative.

(In all the Pharmacopœias except Fr.)

Dose.—20 to 60 grs.

Contained in Confectio Sennæ, Infusum Gentianæ Comp., Tinctura Rhei.

Preparation.

OLEUM.

The Distilled Oil.

1 lb. of fruit yields about 42 grs. of oil.

Used to render medicines more palatable, and prevent griping.

(Not in any other Pharmacopœia.)

Contained in Syrupus Sennæ.

Dose.—1 to 4 minims.

CREASOTUM.

CREASOTE.

$C_{28}H_{16}O_4$; eq. 216.

A product of the distillation of Wood Tar.

Solubility, sparingly in water; freely in Alcohol, Ether, and Acetic Acid.

Creasote was discovered by Reichenbach, who found it in Wood Tar. It possesses the peculiar property of coagulating Albumen and preserving animal substances from decay. It is to the presence of this substance that the process of smoking hams owes its efficacy. Its name is derived from this circumstance. Its specific gravity is 1·065, and it boils at about 400° F. It dissolves in about 40 parts of water and in any quantity of Alcohol. It is perfectly miscible with glacial Acetic Acid, but separates again on the addition of water. It appears to be nearly identical with Carbolic Acid, a substance obtained from Coal Tar, and which has been sold under the name of foreign Creasote. The difference in the smell of Carbolic Acid and Creasote is probably due to the presence of some impurity; for all practical purposes they may be substituted the one for the other without any appreciable difference in the effect.

Carbolic Acid has been lately brought into the market in a crystalline state This effect is produced by careful dehydration, the presence of a minute quantity of water causing the Carbolic Acid to remain liquid at very low temperatures. Its medicinal properties are similar to those of ordinary Creasote.

~~Impure~~ Carbolic is largely used to disinfect sheds where the cattle plague has been.

Test.—Sp. g. 1·065. A slip of deal dipped into it, and afterwards into Hydrochloric Acid, and then allowed to dry in the air, acquires a greenish-blue colour. Dropped on white filtering-paper, and exposed to a heat of 212° F., it leaves no translucent stain. It coagulates Albumen. It dissolves in its own volume of Glacial Acetic Acid.

(In all the Pharmacopœias.)

Medicinal Properties.

Irritant, narcotic, styptic, antiseptic, and escharotic. Given internally for chronic gonorrhœa and gleet, for arresting nausea in hysteria and pregnancy. It has been given with advantage in malignant cholera and cholera infantum. Either Creasote or Carbolic Acid, 1 to 60 of water, is injected into the bladder to obviate the putrid odour of the urine. Externally used, in the proportion of 1 to 40 for a lotion, to eruptions of a scaly character, to burns and chilblains, to erysipelas of the face, with swelling and pain; toothache, when depending on caries, is relieved by its application.

Dose.—1 to 2 minims, diluted with weak mucilage, ½ oz. to each minim; or in a pill with crumb of bread.

When prescribed in pills with Oxide of Silver, the mass will take fire unless the oxide be first mixed with Liquorice or other powder.

Preparation.

MISTURA.

Creasote, 16 minims; Glacial Acetic Acid, 16 minims; Spirit of Juniper, ½ drm.; Syrup, 1 oz.; Distilled Water, 15 oz.: mix. =(1 in 484).

A good mode of administering Creasote, its unpleasant taste being concealed by the Juniper.

It dissolves in the Water without the aid of the Acid.

Mucilage will render Creasote emulsive with water.

(Same as Edin. but stronger of Juniper; U. S. Aqua Creasoti 1 in 128 water; not in others.)

Dose.—1 to 2 oz.

UNGUENTUM.

Creasote, 1; Simple Ointment, 8: mix. =(1 in 9).

(Dub. 1 in 8; Lond. 1 in 17; Edin. 1 in 25; U. S. and Belg. 1 in 17; not in others.)

Employed in mild cases of ringworm.

Not Officinal.

INHALATIO.—Creasote, 6 minims; Water, ½ oz. (Hospital for Consumption.)

LIQUOR CARBONIS DETERGENS.—An alcoholic solution of Coal Tar as obtained from the gas-works. It is almost black, smells strongly of Naphthaline, and is of light specific gravity. Prescribed by Mr. Startin to be used externally in skin diseases in the following manner:—Liq. Carbonis Detergentis, ½ oz.; Ac. Nitric. Dil. 1 drm.; Mist. Camphoræ ad 8 oz.; to be sponged over the part affected when irritable, and afterwards to be dried off with soft linen.

CRETA PRÆPARATA.

PREPARED CHALK.

Carbonate of Lime, CaO,CO_2, nearly pure; eq. 50.

Solubility: almost entirely in dilute Hydrochloric Acid (provided it contains no Sulphate of Lime or Silica), giving off small bubbles of Carbonic Acid. Insoluble in water.

Test.—The salt formed by dissolving the Chalk in Hydrochloric Acid, if rendered neutral by evaporation to dryness and redissolved in water, gives only a very scanty precipitate on the addition of saccharated Solution of Lime—indicating absence of Phosphate.

(Lond.; Edin.; Dub.; U.S.; Austr. Creta Depurata; Belg. Carbonis Calcis Depuratus; U.S. Creta; not in others.)

Medicinal Properties.

It is an astringent and antacid. Combined with other astringents and aromatics, it is used in diarrhœa accompanied with acidity. One of the best

antidotes for Oxalic Acid. Has been recommended in rachitis and in scrofulous affections. Used externally to burns and ulcers.

Prescribed in powder or suspended in mucilage.

Dose.—10 to 100 grs.

Contained in Hydrargyrum cum Creta.

Preparations.

MISTURA CRETÆ.

Prepared Chalk, 1; Gum Arabic, in Powder, 1; Syrup, 2; Cinnamon Water, 30. =(1 in 34).

(Nearly same as Dub.; Lond. and Belg. 1 in 40; Edin. 1 in 36, with spirit; U. S. 1 in 16; not in others.)

Dose.—1 to 2 oz., with astringent tinctures and opium.

Care should be taken to use the *Prepared* Chalk, and not the Precipitated Chalk, as the crystalline property of the latter is said to occasion irritation of the bowels.

PULVIS CRETÆ AROMATICUS.

Prepared Chalk, 1; Aromatic Powder, 3: mix. =(1 in 4).

A new preparation.

Keep in a stoppered bottle.

(Similar to Lond. Confectio Aromatica.)

Dose.—30 to 60 grs.

PULVIS CRETÆ AROMATICUS CUM OPIO.

Aromatic Powder of Chalk, 39; Opium, in powder, 1: mix thoroughly and pass through a sieve. =(1 Opium in 40),

Keep in a stoppered bottle.

Dose.—10 to 40 grs.

Not Officinal.

CHOLERA MIXTURE.—Aromatic Powder, 3 drms.; Tincture of Catechu, 10 drms.; Compound Tincture of Cardamoms, 6 drms.; Tincture of Opium, 1 drm.; Chalk Mixture to make 20 oz.

This mixture was proposed by the Board of Health during the prevalence of cholera, and is useful in all cases of diarrhœa.

Dose.—1 oz for an adult, ½ oz. for twelve years, ¼ oz. for seven years old, after each liquid motion.

CROCUS.

SAFFRON.

The stigma and part of the style of the *Crocus sativus* dried; imported from Spain, France, and Naples.

Test.—When rubbed on the moistened finger it tinges it an intense orange-yellow. Pressed between the folds of filtering-paper it leaves no oily stain. Concentrated Sulphuric Acid instantly changes its colour to indigo-blue.

(In all the Pharmacopœias; Fr. Safran.)

Medicinal Properties.

A slightly exhilarating stimulant. Useful for giving colour and flavour to officinal preparations.

Contained in Decoct. Aloes Comp.; Pil. Aloes et Myrrhæ; Tinct. Rhei; Tinct. Cinch. Comp.; Pulvis Aromaticus, *see* CINNAMOMUM.

Preparation.

TINCTURA.

Saffron, 1; Proof Spirit, 20: macerate forty-eight hours with 15 of the spirit, agitating occasionally, pack in a percolator, let it drain, and then pour on the remaining spirit; when it ceases to drop, wash the marc with spirit to make up 20. =(1 in 20).

(Same as Edin.; Dub. 1 in 10; Belg. 1 in 5½; Austr. 1 in 7; not in others.)

Dose.—½ to 2 drms.

CROTONIS OLEUM.

CROTON OIL.

The oil expressed from the seeds of the *Croton Tiglium*, a native of Hindostan, Ceylon, and the Moluccas. It may be separated by decoction in Water, or by the action of Ether, which dissolves the oil and leaves it behind on evaporation. 100 parts of seed yield about 50 or 60 of oil.

Solubility: wholly in Ether, Oil of Turpentine, and Olive Oil.

Test.—Agitated with its own volume in Alcohol and gently heated it forms a clear solution, from which about three-fourths of the oil separate on cooling.

(In all the Pharmacopœias; U. S. Ol. Tiglii.)

Medicinal Properties.

A powerful hydragogue purgative, acting with great rapidity. In cases of obstinate constipation, and in apoplexy. Applied externally in rheumatism, gout, neuralgia, glandular and other indolent swellings, and in laryngeal and pulmonary diseases in the form of liniment.

Dose.—⅛ to 1 minim.

In pill with Crumb of Bread, or in combination with Comp. Ext. of Colocynth.

Preparation.

LINIMENTUM CROTONIS.

Croton Oil, 1; Olive Oil, 7: mix. =(1 in 8).

A new preparation.

Br. Ph. is scarcely strong enough to produce pustular eruptions in all cases.

(Dub. Croton Oil, 1, Turpentine, 7. Not in others.)

CUBEBA.

CUBEBS.

The unripe fruit of the *Cubeba officinalis*, dried, imported from Java.

Medicinal Properties.

Gently stimulant, with special direction to the urinary organs. Given in gonorrhœa, most safely when the inflammation is confined to the mucous membrane of the urethra.

(In all the Pharmacopœias except Pr.; Fr. Poivre à Queue.)

Dose.—For gonorrhœa 1 to 3 drms. of the powder, in moistened wafer-paper, three or four times a day. In other cases the dose may be reduced to 10 grs.

Preparation.

OLEUM.

The Distilled Oil.

(Belg. and U. S.; not in others.)

A new preparation.

Dose.—5 to 20 minims, suspended in Water by means of Mucilage and Sugar.

Not Officinal.

TINCTURA.—Cubebs, in powder, 1; Proof Spirit, 8: macerate forty-eight hours with 6 of the spirit, agitating occasionally, pack in a percolator and let it drain; pour on the remaining spirit, and when it ceases to drop, wash the marc with spirit to make up 8. =(1 in 8)

Dose.—1 to 2 drms.

(Same as U. S.; not in others.)

CUPRUM.

COPPER.

Copper, or Venus of the alchemists, has been employed from the earliest ages, and previously to the discovery of malleable iron was the principal ingredient in the formation of domestic utensils and instruments of war. It takes its name from the island of Cyprus, where it was wrought by the Greeks. It is found both native and in combination with Oxygen, Chlorine, and Sulphur; of these, the Sulphate only is officinal. The purest Copper is that which is deposited by electricity.

CUPRI SULPHAS.

SULPHATE OF COPPER.

CuO,SO_3+5HO; eq. 124·75.

A filtered solution of the Sulphate of Copper of commerce, re-crystallized.

In oblique prismatic crystals of a clear blue colour. Sp. g. 2·104.

Solubility: in Water, 1 in 3. Whatever Ammonia throws down from this solution is re-dissolved by an excess of the precipitant.

(In all the Pharmacopœias.)

Test.—An aqueous solution of the salt to which twice its volume of Solution of Chlorine has been added, when treated with an excess of Solution of Ammonia, gives a sapphire-blue solution, leaving nothing undissolved—indicating absence of Iron and other impurities.

Medicinal Properties.

Astringent, tonic, and emetic. Given in epilepsy and chorea. Recommended also in croup and in chronic diarrhœa. The most reliable emetic in cases of narcotic poisoning. Externally, as a stimulant to ulcers, as an escharotic for warts, etc., and a styptic for bleeding surfaces and to diminish excessive secretion from mucous membranes. It is also used in various affections of the eyes when astringent applications are required.

Dose.—½ gr. gradually increased to 2 grs. three times a day, in pill, as a tonic for epilepsy; 10 grs. in 2 oz. of water as a prompt emetic in cases of narcotic poisoning. Externally, for lotions, in proportions from 2 to 4 grs. to 1 oz. ('The Thirteen London Hospital Pharmacopœias'); also 8 grs. to 1 oz. for prurigo genitalium.

Not Officinal.

LAPIS INFERNALIS.—Sulphate of Copper, Nitrate of Potash, and Alum, of each equal parts, in powder, fused in a glazed earthen crucible, powdered Camphor, to the extent of $\frac{1}{50}$th part of the whole, being added near the end of the process. When cold, break in pieces and keep in a closely-stoppered bottle. An eye-wash may be made of 2 grains to an ounce of distilled water.

(Called also Lapis Divinus.)

CUSPARIA.

CUSPARIA BARK; ANGUSTURA BARK.

The bark of the *Galipea Cusparia*, from tropical South America.

Test.—The inner surface touched with Nitric Acid does not become blood-red.

This test is to guard against the Strychnos Bark being mistaken for the Cusparia; the former contains Brucia, which becomes red by contact with Nitric Acid.

(Same as Lond. and Edin.; U.S. Belg. Fr. Angustura; not in others.)

Medicinal Properties.

A stimulant tonic. Used in malignant bilious fever, intermittent fever, dysentery, and in convalescence from acute diseases. Probably more effective in warm than temperate climates. Aromatics are generally combined with it, to prevent nausea.

Dose.—Of the powder, 10 to 40 grs.

Preparation.

INFUSUM.

Cusparia, in coarse powder, 1; Distilled Water at 120°, 20: infuse two hours and strain. =(1 in 20).

(Lond. and Edin. 1 in 27; U.S. Inf. Angusturæ, 1 in 34; not in others.)

Dose.—1 to 2 oz.

CUSSO.

KOUSSO.

The flower of the *Brayera anthelmintica*, from Abyssinia.

Medicinal Properties.

Anthelmintic. Especially for tænia.

(Belg. U. S.; not in others.)

Dose.—¼ to ½ oz.

Preparation.

INFUSUM.

Kousso, in coarse powder, ¼ oz.; boiling Distilled Water, 4 oz.: infuse fifteen minutes, without straining, for one dose.

A new preparation.

(Not in other Pharmacopœias.)

Not Officinal.

CYDONIUM.

QUINCE SEED.

The seeds of the *Cydonia vulgaris.*

Their coriaceous envelope abounds in mucilage.

Medicinal Properties.—Demulcent. The decoction used externally for cracks in the skin. A nice neutral adjunct to eye-lotions in cases of irritation and inflammation.

Decoction (Lond.).—Quince Seed, 1; Distilled Water, 80: boil over a slow fire for ten minutes, and strain.

DECOCTA.

DECOCTIONS.

The Decoctions which were in former Pharmacopœias and omitted in the British, are:—Decoctum Chimaphilæ, Lond. and Dub.; Cinchonæ Pallidæ, Lond. Edin. and Dub.; Cinchonæ Rubræ, Edin. and Dub.; Cinchonæ Cinereæ, Edin.; Cydonii, Lond.; Dulcamaræ, Lond. Edin. and Dub.; Gallæ, Lond.; Granati, Lond.; Guaiaci, Edin.; Hordei Compositum, Lond. and Edin.; Lini Compositum, Dub.; Mezerei, Edin.; Myrrhæ, Dub.; Pyrolæ (vel Chimaphilæ), Lond. and Dub.; Scoparii Compositum, Lond. and Edin.; Senegæ, Lond.; Tormentillæ, Lond.; Ulmi, Lond.; Uvæ Ursi, Lond. and Dub.

No new ones are introduced.

The following are the Decoctions of the British Pharmacopœia, the formulæ of which will be found under the names of the substances from which they are prepared:—

		Proportion of active ingredients to the whole
Page 18.	DECOCTUM ALOES COMPOSITUM	1 in 85.
67.	DECOCTUM CETRARIÆ	1 in 20.
72.	DECOCTUM CINCHONÆ FLAVÆ	1 in 16.
113.	DECOCTUM GRANATI RADICIS	1 in 10.
114.	DECOCTUM HÆMATOXYLI	1 in 16.
115.	DECOCTUM HORDEI	1 in 15.
159.	DECOCTUM PAPAVERIS	1 in 8.
160.	DECOCTUM PAREIRÆ	1 in 14.
178.	DECOCTUM QUERCUS	1 in 20.
190.	DECOCTUM SARSÆ	1 in 8.
191.	DECOCTUM SARSÆ COMPOSITUM	1 in 8.
194.	DECOCTUM SCOPARII	1 n 16.
214.	DECOCTUM TARAXACI	1 in 20.

Decoctions not officinal are enumerated in the Index.

DIGITALINUM.

DIGITALIN.

The active principle obtained from Digitalis.

An uncrystallizable light-brown powdery resinoid substance.

Solubility: readily in Spirit; dissolves in Acids; almost insoluble in Water and Ether.

Test.—Leaves no residue when burnt with free access of air.

(In no other Pharmacopœia.)

Dose.—$\frac{1}{80}$ to $\frac{1}{10}$ of a gr.

This preparation is too dangerous for internal use and will probably not be retained in the next edition of the Pharmacopœia.

DIGITALIS.

DIGITALIS.

The dried leaf of the *Digitalis purpurea* (*Foxglove*), gathered when about two-thirds of the flowers are expanded. Indigenous.

Medicinal Properties.

Sedative and diuretic, when disturbance arises from over-action of the heart. It is cumulative in action, and requires caution.

Dose.—½ to 2 grs. of the powdered leaf.

Preparations.

DIGITALINUM.—*See* DIGITALINUM.

INFUSUM.

Digitalis, dried, 30 grs.; boiling Distilled Water, 10 oz.: infuse one hour and strain. =(1 in 160).

(Same strength as Lond.; half that of Edin. and Dub.; Edin. and Lond. with Spirit of Cinnamon; U. S. 1 in 70; not in others.)

Dose.—½ to 1 oz.

TINCTURA.

Digitalis, dried and bruised, 1; Proof Spirit, 8: macerate forty-eight hours with 6 of spirit, agitating occasionally, pack in a percolator and let it drain, then pour on the remaining spirit; when it ceases to drop, press and wash the marc with spirit to make up 8. =(1 in 8).

(Same as Dub.; Lond. and Edin. 1 in 9; Fr. 1 in 4; Belg. 1 in 5½; Pr. and Austr. 1 in 7; U. S. 1 in 7⅝.)

Dose.—10 to 30 minims.

Not Officinal.

Succus Digitalis.—The Expressed Juice, 3; Rectified Spirit, 1.

This preparation may be given for a longer period than the tincture without causing nausea.

Dose.—5 to 10 minims.

DULCAMARA.

DULCAMARA.

The young branches of the *Solanum Dulcamara*, dried, from plants which have shed their leaves. Indigenous.

Medicinal Properties.

Narcotic. Increases the secretions, particularly of the kidneys and skin. It has a peculiar action on the skin, and has been observed to impart a dark purple colour to the face and hands. Used in cutaneous eruptions, chiefly of a scaly character, as lepra, psoriasis, and pityriasis. Also in chronic rheumatism and catarrh. A decoction is applied also externally in skin diseases at the same time it is used internally.

(Lond. Edin. and Dub.; Belg. U. S. Fr. Douce-amère; not in others.)

Preparation.

INFUSUM.

Dulcamara, bruised, 1; boiling Distilled Water, 10: infuse one hour, and strain. =(1 in 10).

A new preparation.

(A decoction was ordered in Lond. Edin. Dub. U. S. and Belg.; not in others.)

Dose.—1 to 2 oz.

ELATERIUM.

ELATERIUM.

A sediment from the expressed juice of the fruit of the *Ecbalium officinarum.*

The fruit is cut lengthwise, the juice lightly pressed out, strained through a hair sieve, then allowed to deposit; the clear liquor being poured off, the sediment thrown on a linen strainer to drain, and lastly dried on a porous brick with a gentle heat.

Test.—Does not effervesce with acids; yields half its weight to boiling Rectified Spirits. This solution concentrated and added to warm Solution of Potash yields, on cooling, not less than 20 per cent. of Elaterine in colourless crystals. It is not injured by light.

(In all the Pharmacopœias except Pr.)

Medicinal Properties.

A powerful hydragogue cathartic. Especially used in dropsical affections connected with cardiac or renal disease. Its administration in a debilitated state of the system requires caution.

Dose.—To prevent its causing nausea it may be combined with Henbane, and is best given in doses of $\frac{1}{12}$ to $\frac{1}{2}$ gr. till it operates. Mr. Vance gave it with Gamboge in dropsy.

ELEMI.

ELEMI.

A concrete resinous exudation, chiefly imported from Manilla.

Should have a fragrant, fennel-like odour, and is usually soft and unctuous to the touch.

Medicinal Properties.

Analogous to those of Turpentine. For external use only.

(In all the Pharmacopœias, except Fr. and U. S.)

Preparation.

UNGUENTUM.

Elemi, 1; Simple Ointment, 4: melt and strain. =(1 in 5).

(Same as Dub.; Lond. Austr. Belg. and Pr. 1 Elemi and 1 Turpentine in 4; not in others.)

To keep open issues and setons.

EMPLASTRA.

PLASTERS.

The following Emplastra of former Pharmacopœias are omitted from the British:—Emplastrum Ammoniaci, Lond. Edin. Dub.; Assafœtidæ, Edin.; Cantharidis Comp., Edin.; Cumini, Lond.; Potassii Iodidi, Lond.; Simplex, Edin.

The Emplastra of the British Pharmacopœia are as follows, the formulæ for which will be found under names of the drugs from which they are prepared:—

		Proportion of active ingredients in the mass.
Page 26, 117.	EMPLASTRUM AMMONIACI CUM HYDRARGYRO	(Mercury) 1 in 5.
42.	EMPLASTRUM BELLADONNÆ	(Extract) 1 in 2.
57.	EMPLASTRUM CALEFACIENS . . .	(Cantharides) 1 in 30.
57.	EMPLASTRUM CANTHARIDIS . . .	(Cantharides) 1 in 3.
103.	EMPLASTRUM FERRI	(Peroxide of Iron) 1 in 11.
109.	EMPLASTRUM GALBANI	(Galbanum) 1 in 11.
116.	EMPLASTRUM HYDRARGYRI	(Mercury) 3 in 1 .
137.	EMPLASTRUM LITHARGYRI.	
157.	EMPLASTRUM OPII	(Opium) 1 in 10.
163.	EMPLASTRUM PICIS.	
180.	EMPLASTRUM RESINÆ	(Resin) about 1 in 10.
189.	EMPLASTRUM SAPONIS.	

Plasters which are not officinal are enumerated in the Index.

ENEMATA.

ENEMAS.

Enema Colocynthidis is the only Enema of former Pharmacopœias that has been omitted. The following are the Enemas of the British Pharmacopœia the formulæ for which will be found under the names of the drugs from which they are prepared :—

		In each Enema.
Page 17, 19.	ENEMA ALOES	40 grs. Aloes.
37.	ENEMA ASSAFŒTIDÆ	6 drms. Tincture.
143.	ENEMA MAGNESIÆ SULPHATIS.	(Catharticum) 1 oz. Sulphate.
157.	ENEMA OPII . . . . . , ...	½ drm. Tincture.
213.	ENEMA TABACI	20 grs. Leaf.
215.	ENEMA TEREBINTHINÆ	1 oz. Oil.

ERGOTA.

ERGOT.

The diseased seeds of the *Secale cereale.**

Test.—Yields its virtues to Water and Alcohol. The aqueous infusion has an acid reaction. It is precipitated by Acetate and Subacetate of Lead, Nitrate of Silver, and Tincture of Galls. With Iodine, does not show evidence of Starch.

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* Ergot is common among grasses, and if it occurs in the pastures where cattle feed it is said to occasion dry gangrene, causing the cattle to lose their hoofs and horns.

In percolating the powder with Ether, more than one-third of its original weight of Oil is extracted.

Medicinal Properties.

Has a special tendency to action upon the uterus in parturition when that organ has not sufficient muscular power, the os, however, being sufficiently dilated. Employed in uterine hæmorrhage and floodings. It is of service also in pulmonary hæmorrhage. In amenorrhœa, if Iron is given for three weeks and the fourth week the Liquid Extract of Ergot be administered in 15 minim doses three times a day, it rarely fails to bring on catamenia in young persons.

(In all the Pharmacopœias; Austr. Belg. and Pr. Secale Cornutum; Fr. Seigle Ergoté.)

Dose.—20 to 30 grs., infused in boiling water, to cause uterine contraction; 5 to 10 grs. three times a day in spinal cases.

Preparations.

EXTRACTUM LIQUIDUM.

Ergot, in coarse powder, 16; Ether, 20; Distilled Water, 70; Rectified Spirit, 8. Shake the Ether in a bottle with half its bulk of the Water, and after separation decant the Ether. Place the Ergot in a percolator, and free it from oil by passing the washed Ether through it, Remove the marc, and digest in the remainder of the water at 160° F. for twelve hours. Press out the liquor and evaporate it to 9, and add the 8 of spirit. Filter, and make up the quantity to 16. =(1 in 1).

Note.—The Ether here ordered is not sufficient; it should be 40 instead of 20, thus, 20 oz. should be poured upon the Ergot first, and, when it causes it to drop, 20 ounces more should be poured on it, and when that causes to drop, the ergot should be taken out and dried (to get rid of all the Ether) before it is digested in the water.

16 oz. of the liquid Extract evaporated leaves 2¼ ounces of solid Extract.

(Same as U. S.; Austr. and Pr. have a solid extract; not in others.)

Dose.—15 to 30 minims.

INFUSUM.

Ergot, in coarse powder, 1; boiling Distilled Water, 40: infuse half an hour and strain. =(1 in 40).

Should be made fresh on each occasion.

Dose.—1 to 2 oz.

(Dub. 1 in 36; not in others.)

TINCTURA.

Ergot, bruised, 1; Proof Spirit, 4: macerate forty-eight hours with 3 of the spirit, agitating occasionally, pack in a percolater, let it drain, then pour on the remaining spirit; when it ceases to drop, wash the marc with spirit to make up 4. =(1 in 4).

(Dub. 1 in 5; Lond. Ethereal; not in others.)

Dose.—15 to 30 minims.

EXTRACTA.

EXTRACTS.

The following Extracts, which were in former Pharmacopœias, are omitted in the British :—Cinchonæ Cordifoliæ, Lond. and Edin.; Cinchonæ Pallidæ, Lond. and Edin.; Cinchonæ Rubræ, Lond. and Edin.; Colocynthidis, Lond. and Edin.; Digitalis, Edin.; Lactucæ, Lond.; Papaveris, Lond. and Edin.; Pareiræ, Lond. and Edin.; Styracis, Edin.; Uvæ Ursi, Lond.

The following new Extracts are given in the British Pharmacopœia :—Belæ Liquidum, Calumbæ, Cinchonæ Flavæ Liquidum (formerly Infusum Cinchonæ Spissatum), Ergotæ Liquidum, Filicis Liquidum (formerly Oleum Filicis-Maris), Opii Liquidum, Pareiræ Liquidum, Quassiæ.

The following is a complete list of the Extracts of the British Pharmacopœia, the formulæ for which will be found under the names of the drugs from which they are prepared:

Page 13. EXTRACTUM ACONITI (fresh herb).
18. EXTRACTUM ALOES BARBADENSIS.
19. EXTRACTUM ALOES SOCOTRINÆ.
28. EXTRACTUM ANTHEMIDIS (dried flowers).
41. EXTRACTUM BELÆ LIQUIDUM.
42. EXTRACTUM BELLADONNÆ (fresh herb).
53. EXTRACTUM CALUMBÆ (dried root).
56. EXTRACTUM CANNABIS INDICÆ (dried herb).
72. EXTRACTUM CINCHONÆ FLAVÆ LIQUIDUM.
76. EXTRACTUM COLCHICI (fresh corms).
76. EXTRACTUM COLCHICI ACETICUM (fresh corms).
77. EXTRACTUM COLOCYNTHIDIS COMPOSITUM.
79. EXTRACTUM CONII (fresh herb).
92. EXTRACTUM ERGOTÆ LIQUIDUM (dried Ergot).
108. EXTRACTUM FILICIS LIQUIDUM (dried rhizome).
110. EXTRACTUM GENTIANÆ (dried root).
112. EXTRACTUM GLYCYRRHIZÆ (dried root).
114. EXTRACTUM HÆMATOXYLI (chips).
122. EXTRACTUM HYOSCYAMI (fresh herb).
127. EXTRACTUM JALAPÆ (dried root).
130. EXTRACTUM KRAMERIÆ (dried root).
140. EXTRACTUM LUPULI (dried catkins).
152. EXTRACTUM NUCIS VOMICÆ (~~decorticated~~ seeds).
157. EXTRACTUM OPII (Aquosum).
157. EXTRACTUM OPII LIQUIDUM (stronger than Tinct. Opii).
161. EXTRACTUM PAREIRÆ LIQUIDUM (dried root).
178. EXTRACTUM QUASSIÆ (chips).
181. EXTRACTUM RHEI (dried root).
191. EXTRACTUM SARSÆ LIQUIDUM (root cut transversely).
207. EXTRACTUM STRAMONII (dried seeds).
214. EXTRACTUM TARAXACI (fresh root).

Extracts which are not officinal are enumerated in the Index.

Extracts are to be found in Pharmacopœias of very early date, and they are highly satisfactory preparations, as they represent very completely the properties of the plant from which they are made. They are moreover, as a general rule, well adapted for pills,—a convenient form and least objectionable to the patient.

Although this class of preparations has been so long in use, many erroneous notions have prevailed as to the best mode of making them. All previous Pharmacopœias order the *leaves* only to be employed, under the idea that the properties of the plant were most highly developed in those organs. These leaves, again, were directed to be gathered for medicinal use before the flowering of the plant. The author, who has been occupied in this branch of pharmacy for thirty years, is entirely opposed to this plan, both as to the parts employed and the time of gathering. In a paper on "Preserved Juices," read at the Pharmaceutical Society in 1841,* he stated his opinion that the plant was in the highest state of perfection when fully one-third of the flowers were blown. The main object of the growth and inflorescence of a plant is the production of seed, and the whole vital power is concentrated about the period of inflorescence for this object, at this time, therefore, is the greatest perfection to be expected. That the production of the seed requires the whole vital energy of which the plant is capable may be seen in the fact that many plants (annuals) are unable to survive it.

In a more recent paper,† he has shown that the active power resides by no means exclusively in the leaves; on the contrary, an extract prepared from the tender stalks is the more powerful. The plant selected for experiment was Belladonna, because in this case extremely accurate results could be obtained by determining the relative action of the two extracts on the eye. In consequence of these experiments, the British Pharmacopœia has ordered the tender stalks as well as the leaves for making extracts from fresh plants.

The perfection of extracts made from fresh vegetables depends much on the attention given to them during their preparation and to the temperature at which they are made. The lower the temperature during evaporation, the better the extract, if the time be not protracted so long as to cause some chemical change. It should be borne in mind that evaporation goes on only half as rapidly at 150° as it does at 180°, and only half at 180° as it does at 212°. Constant agitation materially influences the rate of evaporation. When the atmosphere is very dry, extracts may be made without artificial heat.

Extracts should be kept in a cool, dry place, first because a summer temperature frequently causes them to ferment, even though they may have been made with great care, and secondly, because in a damp atmosphere they are apt to become mouldy.

FEL BOVINUM PURIFICATUM.

PURIFIED OX BILE.

Fresh Gall, 1; Rectified Spirit, 2: agitate, decant, and evaporate.

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* 'Pharmaceutical Journal,' vol. i. 1841.

† 'Pharmaceutical Journal,' December, 1861.

Solubility: soluble in Water and in Spirit. Insoluble in Ether.

Test.—Its watery solution gives no precipitate on the addition of Rectified Spirit.

(Pr. Fel Tauri Depuratum Siccum.)

Medicinal Properties.

Tonic and laxative. Used where there is a deficiency of bile.

It is not desirable that it should come in contact with the stomach, hence it is put into capsules or in pills coated with Tolu dissolved in Ether; the latter usually preferred.

Dose.—2 to 5 grs. in pill or dissolved in milk.

Formerly the bile was evaporated without purification, and then the dose was much larger.

FERRUM.

IRON.

Fe; eq. 28.

The use of Iron in medicine is of great antiquity; it is said to have been the first mineral used internally, more than three thousand years ago.

Annealed Iron Wire is the purest we can get, and is ordered in the Pharmacopœia for making the various preparations. Iron Filings should by no means be trusted, as they are generally full of impurities.

The Oxidization of Iron is accelerated by the presence of Carbonic Acid in the air. Rust usually contains Ammonia. The solution of Protosulphate of Iron readily attracts Oxygen from the air, by which a portion of protoxide (FeO) is converted into a Sesquioxide of Iron, Fe_2O_3. Hydrosulphuret of Ammonia ($NH_3, 2HS$) occasions a black precipitate (FeS) when added to the solution. Caustic Potash or Ammonia produces a whitish precipitate (FeO,HO), which becomes greenish, and ultimately, by exposure to the air, reddish-brown ($Fe_2O_3, 3HO$). Ferrocyanide of Potassium causes a white or bluish-white precipitate, which, by exposure to to the air, ultimately becomes blue. Ferridcyanide of Potassium occasions a dark-blue precipitate.

Medicinal Properties.

Metallic Iron would exert no action in the living system, were it not for the acid which it generally meets with in the stomach. It is given in the state of fine division, as in Ferrum Redactum. The Peroxide was formerly used in the shape of Ferrum Præcipitatum, but latterly the Saccharo-Carbonate of Iron, and the Citrate of Iron, have taken its place. The Phosphates are much used, and the Tincture of the Perchloride, formerly called Sesquichloride, is still a favourite and reliable preparation; and for children the old Vinum Ferri is much prescribed.

Of the preparations of Iron, some are astringent, and the astringent forms are pre-eminently tonic and peculiarly well fitted to improve the quality of the blood when impoverished from any cause. Hence they are useful in diseases characterized by debility, especially in anæmia, associated with or consequent upon inordinate discharges. The diseases in which they are

usually employed are chronic anæmia, dyspepsia, when dependent on deficient energy of the digestive function, and neuralgia. They are contra-indicated in acute inflammatory diseases, producing, when injudiciously employed, headache, and other symptoms of an excited circulation.

Acetatis Ferri Æther. Tinct., Pr. Ph., is not officinal, but is frequently prescribed. Dose: 10 to 20 minims.

The following are the preparations of Iron contained in the British Pharmacopœia :—

FERRI ARSENIAS.

ARSENIATE OF IRON.

Arseniate of Iron, $3FeO,AsO_5$, partially oxidated; eq. 223.

A tasteless amorphous powder, of a green colour.

Solubility: dissolves readily in Hydrochloric Acid; insoluble in water.

Test.—The solution in Hydrochloric Acid when diluted gives no precipitate with Chloride of Barium—indicating absence of Sulphuric Acid. 20 grains dissolved in an excess of Hydrochloric Acid diluted with water, continues to give a blue precipitate with the Ferridcyanide of Potassium, until at least 17 measures of the volumetric solution of Bichromate of Potash have been added: that is to say, it must contain sufficient Protoxide of Iron to reduce this quantity of Bichromate of Potash.

Medicinal Properties.

Administered internally in obstinate herpetic and scaly affections of the skin. Also used in lupus, elephantiasis, psoriasis, chronic eczema, and lichen. Externally in cancerous affections, diluted with four times its weight of Phosphate of Iron, as a caustic application to cancerous ulcers. From its liability to be absorbed, its use requires great caution. An ointment may be made with twelve times its weight of simple cerate.

A new preparation.

In no other Pharmacopœia.

Dose.—$\frac{1}{16}$ gr., gradually increased to 1 gr. in pill, three times daily.

FERRI CARBONAS SACCHARATA.

SACCHARATED CARBONATE OF IRON.

Carbonate of Iron, FeO,CO_2, eq. 58, mixed with Peroxide of Iron and Sugar, and forming at least 57 per cent. of the mixture.

Sulphate of Iron, 2; Carbonate of Soda, $2\frac{1}{2}$; Boiling Distilled Water, 320; Refined Sugar, 1: dissolve the Sulphate of Iron and the Carbonate of Soda each separately in one-fourth of the water, and mix the two solutions in a close vessel; in twenty-four hours decant the supernatant liquid, and pour the remainder of the water on the sediment, stir well, and again pour off the liquor when clear. Collect the deposit on a calico filter, press, and rub in the sugar in a porcelain mortar. Dry it at a temperature not exceeding 212°.

The Sugar protects the Carbonate of Iron from oxidation.

Small coherent lumps of a grey-brown colour, with a sweet, very feeble, chalybeate taste.

Dissolves with effervescence in warm diluted Acids.

(Lond. Edin. Dub.; not in others.)

Test.—Its solution in Hydrochloric Acid gives but a very slight precipitate with the Chloride of Barium—indicating a trace of Sulphate. 20 grains dissolved in excess of Hydrochloric Acid, and diluted with water, continue to give a blue precipitate with the Ferridcyanide of Potassium, until at least 33 measures of the volumetric solution of Bichromate of Potash have been added —that is to say, it must contain sufficient Protoxide of Iron to reduce this quantity of Bichromate of Potash.

Medicinal Properties.

An excellent chalybeate. Possesses the advantage of having nearly all the iron in it in the state of protoxide, and of being readily soluble in acids. Not astringent. Useful in anæmic amenorrhœa.

Dose.—5 to 20 grs.

Preparations.

MISTURA FERRI COMPOSITA.

Sulphate of Iron, 30 grs.; Carbonate of Potash, 25 grs.; Myrrh in powder, 60 grs.; Sugar, 60 grs.; Spirit of Nutmegs, 1 drm.; Rose Water, 8 oz.

Triturate the Myrrh and Carbonate of Potash with the Sugar, the Spirit of Nutmeg, and 7 ounces of the Rose Water, the latter being gradually added until a uniform mixture is obtained. To this add the Sulphate of Iron, previously dissolved in the remaining ounce of Rose Water, and enclose the mixture at once in a bottle, which should be tightly corked.

The formula of the British Pharmacopœia does not make so good a preparation as that of the old London Pharm. The old London had 25 grains of Sulphate of Iron and 30 grains of Carbonate of Potash; the British reverses the proportions, giving 30 grains of Sulphate of Iron and 25 grains of Carbonate of Potash; in neither of the former Pharmacopœias of London, Edin. and Dub. is the proportion of the Carb. Potash less than the Sulphate of Iron. Powder of Myrrh makes a dusky green mixture, with a large deposit, but fresh lump Myrrh a bright green colour, with very little deposit.

It becomes reddish-brown by keeping, if air is not excluded.

(Similar to Lond. Edin. Dub. and U. S.; not in others.)

Dose.—1 to 2 oz. as a stimulating tonic.

PILULA FERRI CARBONATIS.

Saccharated Carbonate of Iron, 4; Confection of Roses, 1.

(Same as Edin. and resembles Pil. Ferri Comp. Lond. but without the myrrh; Belg. Pil. Carbonatis Ferrosi; U. S. with honey and sugar; not in others.)

Dose.—5 to 20 grs., as a tonic for delicate females and children.

FERRI ET AMMONIÆ CITRAS.

CITRATE OF IRON AND AMMONIA.

$$(Fe_2O_3, NH_4O, HO, C_{12}H_5O_{11} + 2HO)?$$

In thin transparent scales of a hyacinth-red colour with tinge of olive-green, slightly sweet and astringent in taste.

Solution of Persulphate of Iron, 8; Solution of Ammonia, 14; Citric Acid in crystals, 5; Distilled Water, 80: add the Iron to 40 of water; gradually add this to the Ammonia, stirring well for a few minutes; collect the Hydrated Peroxide of Iron which precipitates, and wash it until the filtrate ceases to become turbid on the addition of Chloride of Barium. Dissolve the Citric Acid in the remainder of the water, and digest at a boiling heat on the Oxide of Iron. Make the liquid neutral by the addition of Solution of Ammonia, and evaporate to dryness in thin layers on flat porcelain or glass plates. Keep the salt in flakes in stoppered bottles.

Soluble in water, 10 in 5; almost insoluble in Rectified Spirit.

Test.—Its solution in water, when acidulated with Hydrochloric Acid, gives a copious blue precipitate with the Ferrocyanide of Potassium—indicating Peroxide; but none with the Ferridcyanide—indicating absence of Protoxide. When incinerated with exposure to air, it leaves 26·5 per cent. of Peroxide of Iron.

Medicinal Properties.

As a blood restorer it is a very effectual salt, and it possesses scarcely any astringency: it may often be given when the stomach will not bear the more astringent preparations of iron.

(Lond. Dub. Ferri Ammonio-Citras; and U. S.; not in others.)

Dose.—5 to 10 grs.

In prescribing the above Salt to be taken during effervescence care must be taken to put the Salt of Iron into the Citric Acid Solution, and not into the Bicarbonate of Potash Solution, because if it be put into the latter, Carbonic Acid will be given off and the bottle burst. Tincture of Orange is the best flavouring agent, but prescribers are in the habit of ordering this Salt in Tincture of Orange Peel alone, in which it will not dissolve, therefore the division into doses is impracticable. The addition of only a small quantity of water will make the solution perfect.

FERRI ET QUINIÆ CITRAS.

CITRATE OF IRON AND QUININE.

Citric Acid combined with Peroxide of Iron, Protoxide of Iron, and Quinia.

Thin scales of a greenish golden-yellow colour, somewhat deliquescent, Brit. Ph. The process given, however, by the Brit. Ph. produces scales of a garnet colour.

Solution of Persulphate of Iron, 3 oz.; Sulphate of Iron, 1 oz.; Distilled Water, q. s.; Solution of Soda, 36 oz.; Citric Acid, in crystals, 2¼ oz.; Sulphate of Quinia, 380 grs.; Dilute Hydrochloric Acid, Solution of Chloride of Barium, and Solution of Ammonia, of each a sufficiency.

Dissolve the Sulphate of Iron in 10 oz. of Water, and add to the solution of Persulphate of Iron, mix well, and pour into the solution of Soda, constantly stirring. Collect the precipitate on a calico filter, and wash it until the filtrate ceases to give a precipitate with Chloride of Barium. Dissolve the Citric Acid in 20 oz. of Water, add the washed precipitate, digest on a water bath, repeatedly stirring until a solution is obtained. Dissolve the Sulphate of Quinia in 8 oz. of the Water acidulated with a little of the dilute

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Hydrochloric Acid, precipitate the Sulphuric Acid with Chloride of Barium; filter, and heat the solution with a slight excess of Ammonia; collect the precipitate on a paper filter, and wash it with distilled water until Chloride of Barium dropped into the filtrate gives but a very slight precipitate. Transfer the washed Quinia to the capsule containing the Citrate of Iron, and digest on a water bath, until dissolved. Evaporate this solution in thin layers on porcelain or glass, at a temperature below 212°. Remove it in flakes and keep in stoppered bottles.

Solubility in water, 2 in 1.

Test.—Taste bitter as well as chalybeate. When burned with exposure to air, it leaves a residue which yields nothing to water (Oxide of Iron). 50 grains dissolved in an ounce of water, and treated with a slight excess of Ammonia, gives a white precipitate, which, when collected on a filter and dried, weighs 8 grains (Quinia). The precipitate is entirely soluble in pure Ether—indicating absence of Quinidine and Cinchonine. When burned, leaves no residue, and when dissolved by the aid of an acid, forms a solution which, decolorized by a little purified animal charcoal, turns the plane of polarization strongly to the left; (Cinchonine turns it to the right).

Medicinal Properties.

Astringent and tonic, combining the properties of both Iron and Quinia.

(U. S.; not in others.)

A new preparation.

6 grains contain 1 grain of Quinine.

Dose.—5 to 10 grs. as a tonic, three times a day, in solution or in pill.

FERRI IODIDUM.

IODIDE OF IRON.

$FeI + 4HO$; eq. 191.

Crystalline, green with a tinge of brown, inodorous, deliquescent.

Fine Iron Wire, 1; Iodine, 2; Distilled Water, 10: introduce the Iron, Iodine, and 8 of the water into a flask, heat it for about ten minutes, then boil until the red colour is gone. Filter through paper into a polished iron dish, washing with the rest of the water, and boil until a drop of the solution taken out with an iron wire solidifies on cooling. Pour on porcelain, when cool break into fragments, and keep in a stoppered bottle.

Solubility in water, 1 in 1.

Test.—It dissolves almost entirely in water, leaving but a very small quantity of red sediment.

Medicinal Properties.

It combines the properties both of Iodine and Iron, and is a most valuable tonic in the treatment of scrofulous diseases in cachectic subjects requiring iron. It was first prepared for medicinal purposes by the author, who devised

a mode of keeping the solution in water perfectly neutral at all times, by merely putting into it a coil of soft iron wire, reaching from the surface to the bottom. Dr. A. T. Thomson had the merit of first prescribing it.

N.B.—It consists of 1 Iron, 4½ Iodine, and 1¼ Water.

(Edin. Dub.; Austr. and Pr. Ferrum Iodatum Saccharatum, 6 containing 1 of Iodine; Belg. Ferrum Ioduretum; not in others.)

Dose.—1 to 5 grs. in solution; the pill is rather a questionable mode of administering it.

Preparations.

PILULA.

Fine Iron Wire, 40 grs.; Iodine, 80 grs.; Refined Sugar in powder, 70 grs.; Liquorice Root in powder, 140 grs.; Distilled Water, 50 minims: agitate the Iron with the Iodine and the Water in a strong stoppered ounce phial, until the froth becomes white. Pour the fluid upon the Sugar in a mortar, triturate briskly, and gradually add the Liquorice.

3 grains contain 1 grain of the Iodide. (In U. S.; not in others.)

Dose.—3 to 8 grs.

SYRUPUS.

Iron Wire, 1; Iodine, 2; Refined Sugar, 28; Distilled Water, 13. Make a syrup with the sugar and 10 of the water, and keep it hot. Put into a strong soda-water bottle, covered with a cloth, the iron wire, the iodine, and 3 of water, shake them together until the froth of the mixture becomes white, filter whilst still hot into the syrup. The product should be made up by water to weigh 43 or to measure 31½. Sp. g. 1·385.

Each fluid drachm contains nearly 4½ grains of the Iodide.

(Lond. contains 5 grs. to each drm.; Edin. 6 grs.; U. S. 7½ grs.; Austr. 9 grs.; Belg. ¼ gr.; not in others.)

Dose.—20 to 60 minims.

Note.—It should be kept in well-filled bottles, for if there be much air in the bottle, the surface of the Syrup is decomposed and tinged with Iodine. May be exposed to the light with advantage.

Not Officinal.

LIQ. FERRI IODIDI.

Treat the Iodine and Iron as directed in the formula for Syrup, omit the Sugar, and add a sufficient quantity of water to make the measure up to 31½ oz.

It is the same strength as the Syrup. A coil of Iron Wire must be made to traverse the whole of the column of the solution to keep it neutral.

FERRI OXIDUM MAGNETICUM.

MAGNETIC OXIDE OF IRON.

Peroxide of Iron, Fe_2O_3, with about 9 per cent. of Protoxide of Iron, FeO, and 22 of Water.

A dark greyish-black powder, strongly attracted by the magnet.

Sulphate of Iron, 6 oz.; Sulphuric Acid, 3 drms.; Nitric Acid, 2 drms.; Solution of Soda, 58 oz. or q. s.; Distilled Water, q. s.: mix the Sulphuric Acid with 5 oz. of water, and in it dissolve 4 oz. of the Iron: mix the Nitric Acid with 2 oz. of Water, boil these two mixtures together until the liquid becomes red. To this add the rest of the Iron, first dissolved in 10 oz. of Water; mix: add the solution of Soda; boil five minutes in an iron vessel; collect the precipitate on a calico filter; wash it with boiling water until the filtrate ceases to give a precipitate when dropped into a solution of Chloride of Barium. Dry the precipitate without heat in a confined portion of air over a capsule containing Sulphuric Acid; keep in stoppered bottles.

Solubility: it dissolves without effervescence in Hydrochloric Acid, diluted with half its bulk in water.

Test.—20 grains moistened with Nitric Acid and calcined at a low red-heat, leave 15·8 grains of the Peroxide of Iron. 20 grains dissolved in Hydrochloric Acid continue to give a blue precipitate with the Ferridcyanide of Potassium, until 8·3 measures of the volumetric solution of Bichromate of Potash have been added. That is to say, there should be sufficient protoxide present to reduce that quantity of bichromate.

Medicinal Properties.

In tic-douloureux and other neuralgic affections. Useful when it is desirable to continue the use of iron for a long time, or to give it in large doses.

(Edin. Ferri Oxidum Nigrum, with Ammonia; Dub. with Sulphate of Iron and Caustic Potash; Fr. Oxidum Ferroso-Ferricum; not in others.)

Dose.—5 to 20 grs. twice or thrice daily in water.

This preparation was in great repute with Dr. Jephson, and is certainly more to be depended on than the Sesquioxide: it is the Ferroso-ferric Oxide of Berzelius, a compound of Protoxide and Sesquioxide of Iron.

FERRI PERCHLORIDI LIQUOR.

SOLUTION OF PERCHLORIDE OF IRON.

Perchloride of Iron, Fe_2Cl_3, eq. 162·5 in solution in water.

Miscible with water and alcohol in all proportions.

Iron Wire, 2 oz.; Hydrochloric Acid, 10 oz.;* Nitric Acid, 6 drms.; Distilled Water, 7 oz. Dilute the Hydrochloric Acid with 5 ounces of the Water, and pour the mixture on the Iron Wire in successive portions, applying a gentle heat when the action becomes feeble, so that the whole of the metal may be dissolved. To the Nitric Acid add the two remaining ounces of Water, and having poured the mixture into the solution of Iron, evaporate the whole until the bulk is reduced to 10 ounces.

* Should have been 12; the liquid requires boiling and evaporating till reduced to even 4 oz., in order to get rid of as much Nitric Acid as possible, and then as some of the Hydrochloric Acid is also lost in the process, about ½oz. or more should be added with the water required to make up the proper measure, so that the solution shall be complete.

Test.—Sp. g. 1·338.—A drachm diluted with 2 ounces of water, gives upon the addition of an excess of Solution of Ammonia, a reddish-brown precipitate, which when well washed and incinerated weighs 15·62 grains.

Notwithstanding the greatest precautions, it is difficult to make a satisfactory tincture from the solution made by this process. It was originally intended to introduce an alternative process, by which the Protochloride of Iron was to be converted into Perchloride by means of Chlorine Gas. This process has been adopted by the new Prussian Pharmacopœia, in the place of the Nitric Acid process recommended in the former edition.

It is probable that the precipitate which forms in the tincture of the British Pharmacopœia is partly due to the presence of Nitric Acid; and I have not succeeded in removing the last traces of that Acid by evaporation. The process of the new Prussian Pharmacopœia, though rather more troublesome, is to be preferred to that of the British Pharmacopœia. The process of the London Pharmacopœia, when strictly followed, makes a satisfactory Tincture, which keeps without change: it, however, contains both protochloride and perchloride.

(Belg. sp. g. 1·480; New Pr. 1·480 to 1·484, and contains 15 per cent. of Iron. Not in others.)

Preparation.

TINCTURA FERRI PERCHLORIDI.

Solution of Perchloride of Iron, 1; Rectified Spirit, 3: mix. =(1 in 4).

Sp. g. 0·992. If the solution be made with 12 oz. of Hydrochloric Acid, as suggested above, the sp. g. of the Tincture will be 0·992.

The Tincture of Iron has long been considered the most valuable of all the Iron preparations; it is given in diabetes, acting especially on the kidneys in Albuminuria, the urethra in gleet, and in giving tonicity to the bladder, in passive hæmorrhage, and as a general tonic, having properties in common with the numerous Salts of Iron; highly useful in Anæmia and Chlorosis. It is a powerful styptic.

(Same strength as Lond. Tinctura Ferri Sesquichloridi, Edin. Tinctura Ferri Muriatis, and U.S. Tinctura Ferri Chloridi; one-third of the strength of Tinct. Ferri Sesquichloridi, Dub.; Belg. from the Salt and only half strength; not in others.)

The best formula for making Tinct. Ferri Perchlor. from the Salt is the following:—Crystallized Perchloride of Iron converted by Chlorine Gas, 8 oz.; Water, 3½ oz.: dissolve, and it will measure 8 oz.; then add Rectified Spirit, 24 oz. =(1 in 4).

Dose.—10 to 30 minims in Water, Infusion of Quassia, or Calumba, but it tinges Infusion of Chiretta and Hops, and changes to brown or black those of Chamomile, Cusparia, Gentian, Orange, Cascarilla, Cloves, Digitalis, Bark, and all astringent infusions.

FERRI PERNITRATIS LIQUOR.

SOLUTION OF PERNITRATE OF IRON.

Pernitrate of Iron, Fe_2O_3, $3NO_5$, eq. 242, in solution in Water.

A clear solution, of reddish-brown colour.

Iron Wire, 1; Nitric Acid, 3; Distilled Water, q. s.: dilute the Nitric Acid with 16 of water, dissolve the Iron, and add water to filter 30.

Test.—Sp. g. 1·107. 1 drachm treated with an excess of Solution of Ammonia gives a precipitate, which, when washed, dried, and incinerated, weighs 2·6 grains. It gives no precipitate with the Ferridcyanide of Potassium—Indicating absence of Protoxide.

(Same as Dub.; U.S. Liquor Ferri Nitratis, half the strength; Belg. 1 in 20, sp. g. 1·145; not in others.)

Medicinal Properties.

Tonic and astringent. Useful in chronic diarrhœa, especially when occurring in delicate and nervous females, when there are no inflammatory symptoms; also in menorrhagia; also both internally and as an injection in leucorrhœa, the injection being diluted so as to cause only slight heat and smarting.

Dose.—30 to 60 minims.

FERRI PEROXIDUM.

PEROXIDE OF IRON.

Fe_2O_3, HO; eq. 89.

A dark-brown powder, without taste.

Hydrated Peroxide of Iron dried at 212° F. and reduced to powder.

Solubility: dissolves completely though slowly with the aid of heat, in Hydrochloric Acid, diluted with half its volume of water.

Test.—The solution in Hydrochloric Acid gives no precipitate with Chloride of Barium, or with the Ferridcyanide of Potassium—indicating absence of Sulphuric Acid and Protoxide.

(In all the Pharmacopœias. Lond. Ferri Sesquioxidum; Edin. Ferri Oxidum Rubrum; Dub. Ferri Peroxidum; Austr. Ferrum Oxydatum Nativum Rubrum; Pr. Ferrum Hydricum.)

Preparation.

EMPLASTRUM FERRI. *Syn.* EMPL. THURIS; EMPL. ROBORANS.

Peroxide of Iron, 1; Burgundy Pitch, 2; Litharge Plaster, 8: melt the pitch and plaster together, and stir in the oxide. =(1 in 11).

(Same as Dub.; similar to Lond. Edin. and U. S.; not in others.)

Used as a strengthening plaster, and to afford mechanical support to relaxed muscles.

FERRI PEROXIDUM HYDRATUM.

HYDRATED PEROXIDE OF IRON.

Hydrated Peroxide of Iron, $2Fe_2O_3, 3HO$, eq. 187, with a variable amount of uncombined water.

A soft moist pasty mass, of a reddish-brown colour.

Solution of Persulphate of Iron, 4; Solution of Soda, 33 or q. s.; Distilled Water, 20: mix the Iron and the Water; pour the mixture into the Soda, stirring for a few minutes; collect the precipitate on a calico filter, wash until it ceases to give a precipitate with Chloride of Barium. Keep it (without drying) in a porcelain pot, the lid being luted with lard. Should be recently made.

Solubility: dissolves readily in Hydrochloric Acid.

Test.—Free from grittiness. Leaves on calcination about 12 per cent. of Peroxide of Iron.

(In all the Pharmacopœias except Lond.; Pr. Ferrum Hydricum in Aqua.)

Medicinal Properties.

Not eligible as a ferruginous preparation. It is, however, valuable as an antidote to the poison of Arsenic; it operates by producing an insoluble, and therefore inert Subarseniate of Protoxide of Iron ($2FeO_3$ and $AsO_5 = 4FeO,AsO_5$).

Dose.—As an antidote, 2 to 4 drms. repeated until effective. A quantity equal at least to twelve times the supposed quantity of the poison taken may be given.

FERRI PHOSPHAS.

PHOSPHATE OF IRON.

Phosphate of Iron, $3FeO,PO_5$, partially oxidated; eq. 179.

A slate-blue amorphous powder.

Sulphate of Iron, 3; Phosphate of Soda, 2½; Acetate of Soda, 1; Boiling Distilled Water, 80. Dissolve the Iron in one half of the Water, and the Salts of Soda in the other half: mix and stir carefully. Transfer the precipitate to a calico filter, wash with hot distilled water until it ceases to give a precipitate with Chloride of Barium. Dry on porous bricks in a stove at a heat not exceeding 100° F. Keep in stoppered bottles.

Solubility: soluble in acids, insoluble in water.

Test.—If it is digested in Hydrochloric Acid with a lamina of pure Copper, a dark deposit does not form on the metal—indicating absence of Arsenic.

(Austr. Belg. and U. S.; not in others.)

Medicinal Properties.

Tonic. Possesses the general properties of the ferruginous preparations. Given with advantage in amenorrhœa, some forms of dyspepsia, and diabetes. It diminishes voracious appetite, and invigorates and increases the power of digestion.

(Not in Lond. Edin. Dub.; in all others.)

Dose.—5 to 10 grs.

Preparation.

SYRUPUS.

Granulated Sulphate of Iron, 224 grs.; Phosphate of Soda, 200 grs.; Acetate of Soda, 74 grs.; Dilute Phosphoric Acid, 5½ oz.; Refined Sugar, 8 oz.; Distilled Water, 8 oz. Dissolve the Sulphate of Iron in 4 ounces of the Water, and the Phosphate and the Acetate of Soda in the remainder: mix the two solutions, and, after carefully stirring, transfer the precipitate to a calico filter, and wash it with Distilled Water till the filtrate ceases to be affected by Chloride of Barium; then press the precipitate strongly between folds of bibulous paper, and add to it the Dilute Phosphoric Acid; as soon as the precipitate is dissolved, filter the solution, add the Sugar, and dissolve without heat. The product should measure exactly 12 ounces.

A new preparation.

Each fluid drachm contains about 1 grain of Phosphate.

Dose.—1 to 4 drms.

Not Officinal.

SYRUPUS FERRI HYPOPHOSPHATIS, *vide* Pharm. Journ. vol. vii. p. 440, new series.

Dose.—A fluid drachm.

FERRI SULPHAS.

SULPHATE OF IRON.

$FeO,SO_3 + 7HO$; eq. 139.

Pale bluish-green rhomboidal prisms, with little or no efflorescence.

Iron Wire, 4; Sulphuric Acid, 4; Distilled Water, 30. Pour the Water on the Iron placed in a porcelain capsule; add the Acid, and when the disengagement of gas has nearly ceased, boil for ten minutes. Filter through paper; in twenty-four hours separate the crystals; dry on filtering-paper placed on porous bricks; keep in stoppered bottles.

Solubility: soluble in water, 1 in $1\frac{1}{2}$; the solution rapidly oxidizes on exposure; insoluble in Alcohol and Proof Spirit, hence it cannot be dissolved in tinctures.

Test.—Crystals free from opaque rust-coloured spots, and dissolving in water without leaving any ochry residue. The aqueous solution gives no precipitate with Sulphuretted Hydrogen, and one nearly white with Ferrocyanide of Potassium.

Medicinal Properties.

In harmony with the properties of iron salts in general, it is a powerful astringent, but is apt to irritate the stomach.

(In all the Pharmacopœias.)

Dose.—3 to 5 grs. in pill, or recent solution.

Dr. F. Farre gives 5 grains, with 3 grains of Sulphate of Quinia, four or five times a day, for enlarged spleen.

Preparation.

FERRI SULPHAS EXSICCATA.

Sulphate of Iron exposed in a porcelain capsule to a moderate heat, which may be raised to 400°. Reduce to powder. Keep in stoppered bottles.

(Edin. Dub. U. S. Belg.; not in others.)

Prescribed in pills. 3 grains, which are equal to 5 of the crystallized salt, make a nice pill with 2 grains of Manna.

Dose.—2 to 5 grs.

FERRI SULPHAS GRANULATA.

GRANULATED SULPHATE OF IRON.

$FeO,SO_3, + 7HO$; eq. 139.

Small granular crystals of a pale-green colour, which are not so liable to become brown as those of the Ferri Sulphas.

Iron, 4; Sulphuric Acid, 4; Distilled Water, 30; Rectified Spirit, 8. Pour the Water on the Iron placed in a porcelain capsule; add the Acid, and when the disengagement of gas has nearly ceased, boil for ten minutes; filter

granular crystals. Pour off the liquid, place the crystals on filtering-paper over porous bricks to dry. Keep in stoppered bottles.

Less liable to oxidation than Ferri Sulphas.

Solubility in water, 1 in 1½; insoluble in Rectified Spirit.

Test.—Free from opaque, rust-coloured spots, and dissolving in water without leaving any ochry residue. The aqueous solution gives no precipitate with Sulphuretted Hydrogen, and one nearly white with Ferrocyanide of Potassium—indicating absence of Copper and Persulphate of Iron.

Medicinal Properties and Dose.—See FERRI SULPHAS.

(Same as Dub.; not in others.)

FERRUM REDACTUM.

REDUCED IRON.

Metallic Iron, with a variable amount of Magnetic Oxide of Iron. A fine greyish-black powder, strongly attracted by the magnet, and exhibiting metallic streaks when rubbed with firm pressure in a mortar. Made by passing dry Hydrogen over Peroxide of Iron in a gun-barrel. It must be carefully preserved from the air.

Solubility: it dissolves in Hydrochloric Acid with the evolution of Hydrogen.

Test.—10 grains added to an aqueous solution of 50 grains of Iodine, and 50 grains of Iodide of Potassium, and digested with them in a small flask at a gentle heat, leave not more than 5 grains undissolved, which should be entirely soluble in Hydrochloric Acid.

The author finds between 4 and 5 grains are left, which are Magnetic Oxide, and therefore little more than half is *reduced Iron.*

(Dub. and U. S. Ferri Pulvis; corresponding to this is powdered iron-filings in Austr. Belg. Pr. Fr.; not in others.)

Medicinal Properties.

It is one of the most powerful remedies in restoring the condition of the blood in all anæmic states of the system. It does not, however, possess the astringent properties of other preparations of Iron, and therefore cannot be used as a substitute in passive hæmorrhage. It is chiefly employed in chlorosis, amenorrhœa, chorea, and enlargement of the spleen following intermittent fever. There is no pulverulent state of Iron so convenient as this for children, as it has no taste, and a very small dose is required.

Dose.—1 to 5 grs. several times daily, in powder or pill, or for children ¼ to 1 gr.

1 grain of this is equal medicinally to 5 grains of Citrate of Iron.

FERRUM TARTARATUM.

TARTARATED IRON.

Tartrate of Iron and Potash, $Fe_2O_3, KO, C_8H_4O_{10} + HO$; eq. 268.

Thin transparent scales of a deep garnet colour.

Solution of Persulphate of Iron, 2; Solution of Soda, 20 or q. s.; Acid Tartrate of Potash in powder, 1; Distilled Water, q. s. Add the Iron to 10 of the Water; gradually pour this into the Soda, stirring for a few minutes; collect the precipitate on a calico filter, wash until it ceases to become turbid with Chloride of Barium. Add the precipitate to the Potash in a capsule with 15 of Water, stirring repeatedly for six hours, at a heat not exceeding 140°. Decant when cool, and pour the liquor on porcelain, dry it in thin layers at 140°. Preserve the dried flakes in stoppered bottles.

Solubility in water, 1 in 4; sparingly in spirit.

Test.—By incinerating 50 grains of this preparation at a red-heat, and acting on the residue with Hydrochloric Acid, a solution is obtained, which, when digested with a little Nitric Acid, and afterwards diluted with 4 ounces of water, and supersaturated with Ammonia, yields a precipitate of Peroxide of Iron weighing 14·92 grains.

(Lond. and U. S. Ferri Potassio-Tartras; Edin. and Dub. Ferrum Tartarizatum; Fr. Tartras Ferrico-Potassicus; Pr. Ferro-kali Tartaricum.)

Medicinal Properties.

Useful in restoring the blood, when a slight astringent is desired. May be prescribed with alkalis.

Dose.—6 to 20 grs.

Preparation.

VINUM FERRI.

Tartarated Iron, 160 grs.; Sherry, 20 oz. =(1 in 60).

Each drachm should contain 1 grain.

A new preparation.

(Lond. Iron Wire and Sherry Wine; Belg. Vinum Martiatum, ½ gr. of Lactate of Iron in 1 oz. of Malaga Wine; Fr. Vin Chalibé, Steel-filings and White Wine; not in others.)

Dose.—1 to 4 drms.

The Tartarated Iron dissolves with difficulty in Sherry which is already saturated with Bitartrate of Potash, indeed it will not *all* dissolve. The preparation is not nearly so satisfactory as that of the Lond. made with Sherry and Iron Wire, and far inferior to the *Old Steel Wine*, made with Malaga and Iron Wire.

FICUS.

FIG.

The dried fruit of the *Ficus Carica*, imported from Smyrna.

Medicinal Properties.

Nutritious, laxative, and demulcent. Chiefly used medicinally in constipation. Cut open and heated, it is a convenient suppurative cataplasm.

Contained in Conf. Sennæ.

FILIX.

FERN ROOT.

The rhizoma, or rootstalk of the *Aspidium* or *Nephrodium Filix-mas*, collected in summer, and dried. Indigenous.

Medicinal Properties.

The powder of the rhizoma is slightly tonic and astringent; chiefly used as an anthelmintic and in tænia. It apparently acts by destroying the worm, the expulsion being aided by purgatives.

(In all the Pharmacopœias; Fr. Fougère.)

Dose.—Of the powder, 60 to 180 grs.

Preparation.

EXTRACTUM LIQUIDUM. *Syn.* Oil of Male Fern.

Fern Root in coarse powder, 1; Ether, 2½, or a sufficiency; pack closely in a percolator with 1 of the Ether, add the rest at intervals until it passes through colourless; distil off the Ether, and the liquid extract remains.

A new preparation.

(Austr. Belg. Pr. Extr. Filicis Æthereum; not in others.)

Dose.—30 to 60 minims in milk, or with mucilage.

Should be given on an empty stomach. The author finds the Extract of the unexpanded frond equally effective with that of the rhizome.

FŒNICULUM.

SWEET FENNEL FRUIT.

The fruit of the *Fœniculum dulce*, imported from Malta.

Medicinal Properties.

Stimulant, aromatic and carminative. In action similar to Anise. Much employed as a corrigent of less agreeable medicines. In infantile cases the infusion is frequently employed as an enema for flatus.

Preparation.

AQUA.

Sweet Fennel Fruit bruised, 1; Water, 16; distil 8. =(1 in 8).

(Same as Edin.; Austr. 1 in 6; Belg. 1 in 10; Pr. 1 in 30; Dub. with Essence; U. S. with Oil 1 in 512; not in others.)

Dose.—1 to 2 oz.

As Fennel is retained in the Pharmacopœia, it might as well have still been used instead of Caraway for the Confection of Pepper, and thus preserve the flavour that it had before.

GALBANUM.

GALBANUM.

A gum resin obtained from an umbelliferous plant; imported from India and the Levant; in masses of greyish whitish or reddish tears. Usually heated to 212° F., and strained before using.

Sp. g. 1·212.

Medicinal Properties.

Similar to Assafœtida, but less powerful. A stimulating expectorant. Chiefly used in chronic affections of the bronchial mucous membranes; externally as a plaster to indolent swellings to promote resolution or suppuration.

(In all the Pharmacopœias.)

Preparations.

EMPLASTRUM.

Galbanum, 1; Ammoniac, 1; Yellow Wax, 1; Litharge Plaster, 8.

Melt the two first together and strain, then add the rest.

(Same as Edin.; not in Dub.; contained in Lond. and all the foreign Pharmacopœias, but the formulæ are different.)

PILULA.

The Pilula Galbani Composita has found a place in the London Pharmacopœia for the last half-century, and would naturally be looked for under Galbanum; its name has been changed to Pilula Assafœtidæ Composita, and its composition somewhat altered. *See* ASSAFŒTIDA.

GALLA.

GALLS.

Excrescences on *Quercus infectoria*, caused by the punctures and deposited ova of *Diplolepis Gallæ-Tinctoriæ;* from the Mediterranean and the East Indies.

Solubility: all the soluble matter of Galls is taken up by forty times their weight of boiling water, and the residue is tasteless.

Galls contain about 35 per cent. of Tannin or Tannic Acid, and 5 per cent. of Gallic Acid, to which their therapeutic qualities may be attributed.

Medicinal Properties.

Powerfully astringent. Useful in hæmorrhages, as menorrhagia, hæmaturia, and hæmoptysis, also in increased mucous and other discharges. Externally to suppress hæmorrhage from the gums, nose, etc.; to lessen the discharge from mucous membranes, as in gleet, leucorrhœa, etc.; as a gargle, lotion, injection, or decoction, more or less diluted.

Dose.—(Of powder) 10 to 20 grs. several times a day.

(In all the Pharmacopœias; Fr. Noix des Galles.)

Preparations.

ACIDUM GALLICUM.—*See* ACIDUM GALLICUM.

ACIDUM TANNICUM.—*See* ACIDUM TANNICUM.

TINCTURA.

Galls bruised, 1; Proof Spirit, 8: macerate for forty-eight hours with 6 of the Spirit, agitating occasionally, pack in a percolator, let it drain, and then pour on the remaining Spirit; when it ceases to drop, wash the marc with Spirit to make up 8. =(1 in 8).

(Same as Lond. Edin. Dub.; U. S. 1 in 7½; not in others.)

Dose.—½ to 2 drms.

UNGUENTUM.

Galls in very fine powder, 80 grs.; Simple Ointment, 1 oz.: mix. =(1 in 6½).

(Dub. and U. S. 1 in 8; not in others.)

A useful application for hæmorrhoids.

UNGUENTUM GALLÆ CUM OPIO.

Ointment of Galls as above, 1 oz.; Opium in powder, 32 grs.: mix. =(Opium, 1 in 14⅔).

(Lond. Ung. Gallæ Comp. Galls, 2, Opium, ½, Lard, 16; Edin. Galls, 2, Opium, 1, Lard 8; not in others.)

Applied to painful hæmorrhoids.

Not Officinal.

DECOCTUM GALLÆ (Lond.).—Bruised Galls, 2½; Distilled Water, 40: boil to 20 and strain. =(1 in 8).

A most useful astringent lotion to suppress hæmorrhage from the gums or nose, and to lessen discharges from mucous surfaces.

GENTIANA.

GENTIAN.

The dried root of the *Gentiana lutea*, collected in the Alps, Apennines, and other mountainous districts of Europe.

Medicinal Properties.

Used in all cases of pure debility of the digestive organs, or when a general tonic is required.

Dose.—(Of the powder) 10 to 40 grs.

(In all the Pharmacopœias.)

Preparations.

EXTRACTUM.

Gentian sliced, 1; boiling Distilled Water, 10: macerate two hours, boil fifteen minutes, strain and evaporate.

A good substance to add to powders to form them into pills.

Dose.—10 to 15 grs.

(Same as Lond. Edin. Dub. Fr. Pr. U. S.; not in others.)

INFUSUM COMPOSITUM.

Gentian sliced, ¼ oz.; Bitter Orange Peel bruised, 30 grs.; Coriander, 30 grs.; Proof Spirit, 2 oz.; cold Distilled Water, 8 oz.: pour the spirit on the ingredients, and after two hours add the Water. Infuse for two hours and strain.

(Same as Edin. and U. S.; this is very different from Lond. and Dub., and partakes more of the character of a weak tincture, but is not strong enough to keep without change for more than fifteen or sixteen days; it is inferior in flavour to the aqueous infusion of Lond.; not in others.)

Dose.—1 to 2 oz.

TINCTURA COMPOSITA.

Gentian bruised, 1½; Bitter Orange Peel, bruised, ¾; Cardamom seeds, bruised, ¼; Proof Spirit, 20: macerate for forty-eight hours with 15 of the spirit, agitating occasionally, pack in a percolator, let it drain, and then pour on the remaining spirit; when it ceases to drop, wash the marc with spirit to make up 20. =(1 in 13⅓).

(Same as Dub. and U. S.; Lond. and Edin. weaker, 1 in 16; Pr. Tinctura Simplex, 1 in 8; do. Belg. 1 in 6; do. Fr. 1 in 4½; not in Austr.)

Dose.—1 to 2 drms.

Not Officinal.

INFUSUM GENTIANÆ COMPOSITUM (Lond.).—Gentian, Orange Peel, of each, 1; Lemon Peel, 2; Boiling Water, 80: infuse one hour.

Dose.—½ to 1 oz.

GLYCERINUM.

GLYCERINE.

A sweet principle, $C_6H_8O_6$, eq. 92, obtained from fats and fixed oils. A colourless, thick fluid, oily to the touch, without odour, of a sweet taste.

Solubility: in all proportions with water and Alcohol, but insoluble in Ether and Oils. Combines with Sulphuric Acid, U. S. Ph.

It possesses great powers as a solvent, and is an excellent excipient for many medicinal substances. It dissolves its own weight of Borax, it also dissolves Bromine and Iodine, the Iodide of Sulphur, the Chlorides of Potassium and Sodium, the fixed alkalies, some of the alkaline earths, and a large number of neutral salts. It also dissolves the vegetable acids, and either suspends or dissolves the vegetable alkaloids. Many solutions are made with it for medicinal purposes, as of the Salts of Morphia, Quinia, Strychnia, Veratria, Atropia, Tannic and Gallic Acids, and Arsenic.

It is antiseptic, 1 part to 10 Water, preserving animal substances equal to spirit.

Test.—Sp. g. 1·260.

This is the specific gravity ordered by the Pharmacopœia, but the best Glycerine of commerce is 1·250, and answers all practical purposes; and it is generally diluted for use. It may be obtained of a specific gravity of 1·270, and even of 1·280, though with great difficulty; this very concentrated state is never required in medicine.

(Same as Dub.; U. S. sp. g. 1·250; Pr. sp. g. 1·230; Belg.; not in others.)

Medicinal Properties.

Internally it is nutrient and demulcent. It has been proposed as a substitute for Cod Liver Oil, but its nutrient properties are far inferior. It is sometimes employed as a sweetening agent in the place of syrup.

As an external remedy, it is highly valued, chiefly from its emollient and undrying properties. In skin diseases where emollient and soothing applications are required, as pityriasis, lepra, herpes, eczema, psoriasis, prurigo, and lichen. Useful as a moist dressing for wounds. Excellent for chilblains.

Used in poultices ($\frac{1}{4}$ or $\frac{1}{16}$), it keeps them soft for a long time.

Introduced with cotton it relieves deafness arising from dryness of the external meatus.

Dose.—10 minims to 1 drm.

Not Officinal.

GLYCERINE CREAM FOR CHILBLAINS.—Glycerine, 1; Soft Soap, 1; Cherry-laurel Water, 1: mix.

GLYCERINE CREAM WITH CAMPHOR.—Glycerine, 2; Camphor, 1; Rectified Spirit, 1: mix.

GLYCERINE OINTMENT.—Glycerine, 8; Spermaceti, 4; White Wax, 1; Oil of Almonds, 16: add the Glycerine to the melted ingredients, and stir briskly till cold.

For chaps and excoriations.

GLYCERINE SOAP is much used; a beautiful transparent kind is imported from Germany, containing 20 per cent.; and it is made in England, containing 40 per cent., although the Glycerine Soap generally sold contains only a mere trace.

GLYCYRRHIZA.

LIQUORICE ROOT.

The root or underground stem of the *Glycyrrhiza glabra*, fresh and dried.

Medicinal Properties.

An excellent demulcent as a decoction in catarrhal affections, irritation of the mucous membrane of the bowels and urinary passages. A useful adjuvant to decoctions of bitter or irritating vegetable substances. In the form of extract and its solution it is a domestic remedy for cough.

(In all the Pharmacopœias.)

Preparation.

EXTRACTUM.

Liquorice Root in coarse powder: macerate in water for twelve hours and percolate; heat to 212° F., strain and evaporate.

(Lond. Austr. and U. S. fresh root; Belg. Liquiritia, Fr. Réglisse, Edin. and Dub. dry; Pr. from Solazzi Juice.)

Dose.—$\frac{1}{2}$ to 1 drm.

It is properly ordered to be prepared from the dried root, for when made from the fresh root it cannot be strained bright, and is liable to fermentation.

The Solazzi Juice is made from the *Glycyrrhiza Echina.*

GRANATI RADIX.

POMEGRANATE ROOT.

The bark of the root of the *Punica Granatum*, fresh or dried: chiefly imported dried from Germany.

Medicinal Properties.

Astringent and anthelmintic. It is considered more effective than turpentine in expelling tapeworm, and is less likely to cause nausea. Both in a green and dry state it is found equally effective in India. In this country the Male Fern is more relied on.

(Lond. Edin. Dub. Belg. U. S.; not in others.)

Preparation.

DECOCTUM.

Pomegranate Root, fresh or dry, 1; Distilled Water, 20; boil to 10 and strain. =(1 in 10).

(Same as Lond.; Belg. 1 and 6, boil to 4; not in others.)

Dose.—1 to 2 oz.

GUAIACI LIGNUM.

GUAIAC WOOD.

The wood of the *Guaiacum officinale* sliced, or coarsely turned, imported from St. Domingo and Jamaica.

Test.—Nitric Acid applied to the dark or central wood produces a bluish-green colour.

(In all the Pharmacopœias except Fr.)

Not often prescribed alone.

Contained in Decoctum Sarsæ Compositum.

GUAIACI RESINA.

GUAIAC RESIN.

The resin obtained from the stem of the *Guaiacum officinale* by natural exudation, by incision, or by heat.

In large masses of brownish or greenish-brown colour; fractured surface resinous, translucent at the edges.

Test.—A solution in Rectified Spirit strikes a clear blue colour when applied to the inner surface of a paring of raw potato.

Medicinal Properties.

A stimulant diaphoretic and alterative. It is employed in chronic forms of rheumatism accompanied by great debility, in which the symptoms are relieved by warmth.

Generally prescribed in composition with other medicines.

(In all the Pharmacopœias.)

Dose.—10 to 30 grs. three or four times a day until it causes hot sweating, with or without purging.

Contained in Pilula Calomelanos Composita.

Preparations.

MISTURA GUAIACI.

Guaiac Resin, 2; Sugar, 2; Gum Arabic powder, 1; Cinnamon Water, 80: triturate, adding the Cinnamon water gradually. =(1 in 40).

(Lond. and Edin. 1 in 5; not in others.)

Dose.—½ to 2 oz.

TINCTURA GUAIACI AMMONIATA.

Guaiac Resin, in fine powder, 4; Aromatic Spirit of Ammonia, 20: macerate seven days, filter and wash the filter with Spirit to make up 20. =(1 in 5).

(Same as U. S.; Lond. and Edin. rather weaker; Pr. 1 in 7, with pure Ammonia and Spirit; Belg. 1 in 9, with ditto; not in others.)

Dose.—½ to 1 drm., either with mucilage or yolk of egg, to form an emulsion.

HÆMATOXYLUM.

LOGWOOD.

The heartwood of the *Hæmatoxylum Campechianum* sliced, imported from Campeachy in Central America, from Honduras and Jamaica. The cherry-red inner wood is the part used.

Medicinal Properties.

A mild astringent, without irritating properties, useful in atonic dyspepsia and ordinary chronic diarrhœa and dysentery, and in passive hæmorrhages.

(Lond. Edin. Dub. U. S. Fr.; not in others.)

Preparations.

DECOCTUM.

Logwood in chips, 1 oz.; Cinnamon in powder, 60 grs.; Distilled Water, 20 oz.: boil ten minutes, adding the Cinnamon towards the end, strain 16 oz. =(1 in 16).

Iron vessels should not be used.

(Same as Edin. and U.S.; Lond. and Dub. stronger and without Cinnamon; not in others.)

Dose.—1 to 2 oz.

EXTRACTUM.

Logwood in fine chips, 1; boiling Distilled Water, 10: macerate twenty-four hours, boil to 5, strain and evaporate to an Extract. Iron vessels should not be used.

(Same as Lond. Edin. and U. S.; not in others.)

Dose.—10 to 30 grs.

HEMIDESMUS.

HEMIDESMUS.

The root of the *Hemidesmus Indicus*, or Indian Sarsaparilla, dried; imported from India.

Medicinal Properties.

Diuretic. Useful and alterative in some diseases of the kidneys.

It was brought to England by Dr. Ashburner about the year 1830, and was prescribed for skin diseases and indigestion, like Sarsaparilla, but it did not prove very satisfactory, and is now used chiefly as a flavouring agent.

(Dub.; not in others.)

Preparation.

SYRUPUS.

Hemidesmus, bruised, 1; Refined Sugar, 7; boiling distilled Water, 5: infuse four hours, strain, and add Sugar; dissolve. The product should weigh 10½. Sp. g. 1·335.

(Same as Dub.; not in others.)

Dose.—1 to 4 drms.

HIRUDO.

THE LEECH.

Sanguisuga officinalis, the Speckled Leech (English Leech).

S. medicinalis, the Green Leech, imported chiefly from Hamburg. Also collected in large numbers in Spain, France, and Italy (Hungary Leech).

The *S. officinalis*, belly greenish-yellow, spotted with black. *S. medicinalis*, belly olive-green, not spotted.

Bleeding from leech-bites is sometimes difficult to stop. The following remedies have been applied with advantage:—Matico Leaf, Solution of Perchloride of Iron, Nitrate of Silver Point, and saturated Solution of Alum.

HORDEUM.

PEARL BARLEY.

The decorticated seeds of the *Hordeum distichon*.

Wholly destitute of Hordein, abounding in starch, with some sugar, gluten, and gum.

Preparation.

DECOCTUM.

Pearl Barley, 1; Distilled Water, 15: boil twenty minutes, and strain.

Medicinal Properties.

Demulcent, used as a drink in the sick room.

(Lond. Dub. and U.S.; Belg. half the strength; not in others.)

HYDRARGYRUM.

MERCURY.

Hg; eq. 100.

A brilliantly-lustrous white metallic liquid, becoming solid at —39° F. Sp. g. 13·5.

From China, Almaden in Spain, and Idria in Carniola; also from South America. It is sometimes found pure, but it is chiefly obtained from its sulphuret (native cinnabar) by distillation,

Mercury, as imported, is, after being squeezed through leather, nearly free from impurities. It was first employed medicinally by the Arabian physicians Avicenna and Rhazes, but they only ventured to use it externally against vermin and cutaneous diseases. We are indebted to that renowned empiric Paracelsus for its administration internally (*Pereira, Mat. Med.* 1849). The equivalent (100) is adopted in this work of Pereira. Calomel is there called the Subchloride of Mercury, and Corrosive Sublimate the Perchloride, the symbol HgCl, however, being used for the latter.

Unfortunately, the descriptive name Chloride of Mercury, applied to Calomel in former Pharmacopœias, is by the British Pharmacopœia now applied to the Corrosive Sublimate. This, although, strictly speaking, correct, has given offence to the profession from the liability to which prescribers are exposed of having prescriptions made up with the Corrosive Sublimate instead of Calomel, which, from long familiarity with the London Pharmacopœia, they intended when prescribing Hydrargyri Chloridum. No compounder of medicines however, with a common knowledge of doses, would be likely to commit such an error.

(In all the Pharmacopœias except Austr.)

Test.—Entirely volatile with heat, leaving no residue.

Medicinal Properties.

Mercury as a metal is seldom given alone. In a state of minute subdivision with Chalk, however, it has the effect of increasing the various secretions, its influence upon the salivary glands being the ordinary index of the amount of its action. It is cholagogue and purgative, and powerfully affects the mucous membranes of the intestinal canal. It causes the absorption and prevents the formation of morbid fluids, and is itself absorbed in all the tissues of the body.

It is used in congestion of the liver, kidneys, etc., in acute and chronic inflammation, and as a depletive in fevers. Of great use in syphilis, though frequently followed by serious and even fatal consequences.

As an alterative, it is a safe and efficient medicine.

Externally, as a topical stimulant to indurated and chronically-inflamed parts, and sometimes for introducing the mineral into the system.

Preparations.

EMPLASTRUM.

Mercury, 3; Olive Oil, 1; Resin, 1; Litharge Plaster, 6: dissolve the

Resin in the Oil with the aid of heat; let it cool; add the Mercury and triturate till its globules disappear; then add to the mixture the Litharge Plaster, previously liquefied, and mix the whole thoroughly. =(1 in 3⅔).

(In all the Pharmacopœias.)

EMPLASTRUM AMMONIACI CUM HYDRARGYRO.

Ammoniac, 12 oz.; Mercury, 3 oz.; Olive Oil, 1 drm.; Sulphur, 8 grs.: heat the Oil, and add the Sulphur to it gradually, stirring till they unite. With this mixture triturate the Mercury until globules are no longer visible; and lastly add the Ammoniac, previously liquefied by heat, mixing the whole carefully. =(nearly 1 in 5).

Applied as a discutient to glandular swellings, syphilitic nodes, and in chronic synovitis.

(About the same strength as Lond. Dub. and U. S.; not in others.)

HYDRARGYRUM CUM CRETA.

Mercury, 1; Prepared Chalk, 2: triturate till the globules disappear. =(1 in 3).

By heat, part passes off in vapour; what remains corresponds to chalk in its chemical characters.

(Same as Dub.; Lond. Edin. and U. S. 3 and 5; not in others.)

Dose.—3 to 10 grs.

Best given by itself, or with rhubarb or other powder, as when rubbed with hard extract to form a pill, the Mercury sometimes separates in globules.

LINIMENTUM.

Ointment of Mercury, 1; Solution of Ammonia, 1; Liniment of Camphor, 1: mix. =(1 of Mercury in 6).

(Same as Lin. Hydrarg. Co. Dub.; similar to Lond.; not in others.)

A stimulating Liniment, applied to indolent ulcers.

PILULA.

Mercury, 2; Confection of Roses, 3; Liquorice Root in fine powder, 1: rub the Mercury with the Confection of Roses until metallic globules are no longer visible, then add the Liquorice, and mix the whole well together. =(1 in 3).

(Same as Lond. Edin. Dub. and U. S.; Fr. Pilules Mercurielles, Mercury 6, Aloes 6, Rhubarb 3, Scammony 2, Black Pepper 1, Honey q. s., 4 grs. of this contain 1 gr. of Mercury, 1 gr. of Aloes, and ½ gr. of Scammony; Belg. Pilulæ Hydrargyricæ, 3 grs. contain 1 gr. of Mercury; not in others.)

Dose.—3 to 6 grs. as an alterative, 10 grs. as a purgative.

UNGUENTUM.

Mercury, 16; Prepared Lard, 16; Prepared Suet, 1: rub them together until metallic globules cease to be visible. =(nearly 1 in 2).

(Same as Lond. Edin. and Dub.; U. S. Austr. Belg. and Fr.; Fr. has also Pommade Mercuriale Simple, 1 in 4; Pr. Ung. Hydr. Ciner., 1 in 3.)

Not Officinal.

UNGUENTUM HYDRARGYRI CUM AMMONIÆ MURIATE (Dupuytren).—Mercurial Ointment, 16; Muriate of Ammonia in fine powder, 1: mix.

Applied to chronic glandular enlargements.

HYDRARGYRI IODIDUM RUBRUM.

RED IODIDE OF MERCURY.

HgI; eq. 227.

A crystallized powder of a vermilion colour.

Corrosive Sublimate, 4; Iodide of Potassium, 5; boiling Distilled Water, 80: dissolve the Corrosive Sublimate in 60, and the Iodide of Potassium in the remainder of the water, and mix the two solutions. When the temperature has fallen to that of the atmosphere, decant the supernatant liquor from the precipitate, and having collected the latter in a filter wash it twice with cold distilled water, and dry it at a temperature not exceeding 212° F. A very slight excess of Iodide of Potassium is necessary to convert all the Mercury into Iodide. A large excess combines with the Biniodide, and forms a soluble double salt ($HgIKI$).

Solubility: almost insoluble in Water; dissolves sparingly in Alcohol, but entirely in Ether, or in the aqueous solution of Iodide of Potassium, Iodide of Zinc, and Chloride of Sodium.

Test.—It sublimes entirely at a red-heat, when it becomes yellow; it resumes its scarlet colour on cooling.

Medicinal Properties.

A powerful irritant poison, similar to the green iodide, only much more active. It is used internally in the same cases as corrosive sublimate; externally in scrofula and syphilis.

(In all the Pharmacopœias except Lond.; Edin. Hydrargyri Biniodidum; Pr. Hydrargyrum Biiodatum Rubrum.)

Dose.—$\frac{1}{16}$ increasing to $\frac{1}{8}$ gr.

Best given in a solution of Iodide of Potassium.

Preparation.

UNGUENTUM HYDRARGYRI IODIDI RUBRI.

Red Iodide of Mercury in very fine powder, 16 grs.; Simple Ointment, 1 oz.: mix. =(1 in 28).

A most effective application for bronchocele, and a good application for warts.

(Dub. 1 in 8; Belg. 1 in 25; not in others.)

HYDRARGYRI IODIDUM VIRIDE.

GREEN IODIDE OF MERCURY.

Hg_2I; eq. 327.

A dull-green powder, which darkens in colour upon exposure to light.

Mercury, 1 oz.; Iodine, 278 grs.; Rectified Spirit, a sufficiency: rub the Iodine and Mercury in a porcelain mortar, occasionally moistening the mixture with a few drops of the spirit, and continue the trituration until me-

tallic globules are no longer visible, and the whole assumes a green colour. The product thus obtained should be dried in a dark room, on filtering-paper, by simple exposure to the air, and preserved in an opaque bottle.

This should be freshly made, as Biniodide of Mercury forms after being kept some time, and becomes evident in minute red specks pervading the mass.

Insoluble in Water and Ether.

(In all the Pharmacopœias; Pr. Hydrargyrum Iodatum.)

Test.—Entirely volatilized at a red-heat. When shaken in a tube with Ether, nothing is dissolved. Is not acted upon by Aniline at a boiling heat, but if Biniodide be present, a magenta colour is produced.

Medicinal Properties.

An irritant poison, similar to calomel in action. In small repeated doses it acts upon the lymphatic and glandular systems, and sometimes causes salivation. Employed as an ointment (1 part to 8 of Lard) for scrofulous and venereal eruptions, and chronic skin diseases.

Dose.—1 to 3 grs., and for children $\frac{1}{8}$ to $\frac{1}{4}$ gr.

HYDRARGYRI NITRATIS LIQUOR ACIDUS.

ACID SOLUTION OF NITRATE OF MERCURY.

Nitrate of Mercury, HgO,NO_5; eq. 162; in solution in Nitric Acid.

A colourless and strongly acid solution.

Mercury, 4; Nitric Acid, $3\frac{1}{4}$; Distilled Water, 3: mix the Nitric Acid with the Water in a flask, and dissolve the Mercury in the mixture without the application of heat. Boil gently for fifteen minutes, cool, and preserve the solution in a stoppered bottle.

Test.—Sp. g. 2·246. Does not give any precipitate when a little of it is dropped into Hydrochloric Acid, diluted with twice its volume of water.

(Same as Dub.; Pr. Hydrargyrum Oxydulatum Nitricum Solutum, sp. g. 1·100; not in others.)

Medicinal Properties.

Caustic. Applied to syphilitic warts, ulcers, tubercles, etc. Used by Recamier in cancerous diseases. As a gargle, 1 or 2 minims to 1 oz. water. As as injection in gonorrhœa, 1 minim to 2 oz. water.

Preparation.

UNGUENTUM HYDRARGYRI NITRATIS. *Syn.* UNGUENTUM CITRINUM, *Edin.*

Mercury, 4; Nitric Acid, 8; Prepared Lard, 15; Olive Oil, 32: dissolve the Mercury in the Nitric Acid with the aid of a gentle heat; melt the Lard in the Oil by a steam or water bath in a porcelain vessel capable of holding six times the quantity, and while the mixture is hot add the solution of Mercury, also hot, mixing them thoroughly. If the mixture do not froth

up, increase the heat till this occurs. (The heat required for this is 170° to 180° F.) =(1 in 14¾).

Applied in chronic diseases of the skin as a stimulant and alterative; extremely efficacious in porrigo; in ophthalmic diseases, diluted with 1 or 2 parts of simple ointment, and applied by means of a camel's-hair pencil to the lids.

(Same as Edin. Lond. Dub. U. S. Austr. and Belg. with less Acid; not in others.)

This ointment, which has had a place in the London, Edinburgh, and Dublin Pharmacopœias from their earliest date to the time of the publication of the British Pharmacopœia, was introduced as a substitute for the celebrated Golden Eye Ointment; but till within the last twenty years it had been a most unsatisfactory preparation; it grew hard and crumbly, and its colour changed in a short time after it had been made. We are chiefly indebted to Dr. Duncan for the improved formula which, with some modification, is adopted by the British Pharmacopœia, so that we have now an ointment that remains soft, and retains its beautiful lemon-colour for a long time. Several able pharmaceutists have endeavoured from time to time to point out a better way of preparing it, and various proportions of the ingredients have been employed, as well as the ingredients themselves varied; thus, Butter or Neatsfoot Oil has been used in place of Olive Oil,—but none of the results obtained have equalled the formula here given. If Nitric Acid, sp. g. 1·420, is employed, 11 in the place of 8 will be required.

HYDRARGYRI OXIDUM RUBRUM.

RED OXIDE OF MERCURY.

HgO; eq. 108.

An orange-red powder.

Solubility: insoluble in Water; readily in Hydrochloric Acid.

Mercury, by weight, 8; Nitric Acid, 3; Water, 2: dissolve half the Mercury in the Acid diluted with the water, evaporate to dryness, and triturate with the remainder of the Mercury until well blended. Heat in a porcelain capsule, repeatedly stirring, until acid vapours cease to be evolved. Keep in bottles.

Test.—Entirely volatilized at a red-heat, being at the same time decomposed into mercury and oxygen. If this be done in a test-tube, no orange vapours are perceived. Dissolves without residue in Hydrochloric Acid.

Medicinal Properties.

A powerful irritant. Internally, readily excites vomiting and purging; rarely, however, thus used. Chiefly employed as an escharotic, either in powder or ointment.

(Same as Edin. Dub. U. S.; Lond. Hydrargyri Nitrico-Oxidum; Austr. Belg. Pr. Hydrargyrum Oxidatum Rubrum; Fr. Oxide Rouge de Mercure.)

Dose.—¼ to 1 gr. in pill, in combination with Opium.

Preparation.

UNGUENTUM.

Red Oxide of Mercury, in very fine powder, 64 grs.; Simple Ointment, 1 oz.: mix. =(1 in 8 nearly).

(Lond. Edin. and Dub. 1 in 8; Pr. and Belg. 1 in 50; U. S. 1 in 9; not in others.)

In order to make this ointment perfectly smooth, the oxide should be first well rubbed in a warm mortar with a little of the ointment, the remainder added gradually.

Mr. Balmanno Squire has shown the precipitated oxide is best for the ointment to be used in skin diseases.

HYDRARGYRI SUBCHLORIDUM.—*See* CALOMELAS.

(Pr. Hydrargyrum Chloratum Mite.)

HYDRARGYRUM AMMONIATUM.

AMMONIATED MERCURY.

NH_2Hg_2, Cl; eq. 251·5.

An opaque white powder.

Solubility: soluble in Hydrochloric Acid. Insoluble in Water, Alcohol, and Ether.

Test.—Entirely volatilized at a red-heat.

(In all the Pharmacopœias. Lond. Dub. Hydrargyri Ammonio-Chloridum; Edin. Hydrargyri Præcipitatum Album; Ph. L. 1788, Calx Hydrargyri Alba; Fr. Protochlorure de Mercure par précipitation.)

Medicinal Properties.

Never given internally. Used in the form of ointment as a stimulating application for chronic skin diseases, as porrigo, impetigo, herpes, and sometimes scabies. The ointment is used for pediculi, but the powder can be used alone or mixed with rose-water, and the unpleasantness of greasing the linen avoided.

Preparation.

UNGUENTUM HYDRARGYRI AMMONIATI.

Ammoniated Mercury, 64 grs.; Simple Ointment, 1 oz.: mix.
=(1 in 8).

(Lond. Ung. Hydrargyri Ammonio-Chloridi, and Edin. Ung. Præcipitati Albi, 1 in 12; U. S. 1 in 13; Pr. Ung. Hydr. Amidato-bichlorata; not in others.)

HYDRARGYRUM CORROSIVUM SUBLIMATUM.

CORROSIVE SUBLIMATE.

Chloride of Mercury, $HgCl$; eq. 135·5.

In heavy colourless masses of transparent prismatic crystals.

Solubility: in Water, 1 in 15; in Rectified Spirit, 1 in 7; more soluble in Ether.

Test.—Entirely soluble in Ether. When heated, it sublimes without decomposition, or leaving any residue.

(Same as Belg.; Lond. Hydr. Bichloridum; Edin. and Dub. Sublimatus Corrosivus; Austr. and Pr. Hydr. Bichloratum Corros.; Fr. Deutochlorure de Mercure; U. S. Hydr. Chloridum Corros.; Pr. Hydrargyrum Bichloratum Corrosivum.)

Medicinal Properties.

A powerful irritant in very small doses in syphilitic affections. Externally as lotion or ointment in chronic skin diseases, as an injection for chronic mucous discharges, and as a gargle for ulcerated sore-throat.

Dose.—$\frac{1}{30}$ to $\frac{1}{4}$ gr.

Not Officinal.

COLLYRIUM HYDRARGYRI.—Corrosive Sublimate, 1 gr.; Water, 6 to 8 oz.: mix.

LOTIO HYDRARGYRI FLAVA (Guy's Hospital).—Corrosive Sublimate, 1 gr.; Lime Water, 1 oz. (Hospital Pharmacopœias).

UNGUENTUM HYDRARGYRI BICHLORIDI (Guy's Hospital).—Corrosive Sublimate, 1; Simple Ointment, 145: mix. For Porrigo.

HYOSCYAMUS.

HYOSCYAMUS.

The leaves and branches of the *Hyoscyamus niger*, or Henbane, an indigenous biennial plant, dried; collected when about two-thirds of its flowers are expanded.

Its properties are completely extracted by Alcohol. The leaves yield by destructive distillation a very poisonous oil. The plant is said to contain a crystalline alkaloid, which is rarely obtained pure.

The biennial plant in the first year presents only a tuft of leaves; these die, and leave not a trace of the plant in the winter; they spring again in April and produce a stem, the leaves and the branches of this are used in medicine.

Medicinal Properties.

Narcotic. Similar in action to Belladonna and Stramonium, but milder. Used as a sedative in excited states of the nervous system when Opium, from its constipating properties, is not advisable. It is also employed to diminish pain and allay irritation of the bladder, and to prevent the griping of purgative medicines. The fresh leaves are sometimes used as a cataplasm, or as a fomentation to allay pain in ulcers and tumours, and in gouty and rheumatic swellings. The juice of the plant dilates the pupil of the eye.

(Lond. Edin. Dub. and Pr. Leaves; Austr. Belg. and U. S. Leaves and Seeds; Fr. Jusquiame, Leaves and Seeds.)

Preparations.

EXTRACTUM.

The expressed juice of the leaves and young branches, evaporated to an extract at a temperature not exceeding 140° F.

100 produce 50 juice = 5 Extract.
100 leaves, dried, weigh 15½.

(Same as Lond. Edin. and Dub.; Belg. reduced to powder; Fr. clarified juice;

Pr. Austr. with recent plant and Rectified Spirit to get rid of the Albumen and Chlorophyll, and the clear liquor evaporated to an extract.)

Note.—Extract prepared from clear liquor is twice the strength.

Dose.—3 to 6 grs.

TINCTURA.

Hyoscyamus leaves, dried and bruised, 1; Proof Spirit, 8: macerate forty-eight hours with 6 of the spirit, pack in a percolator, and when it has drained pour on the remaining spirit, and when it ceases to drop, press, and wash the marc with spirit to make up 8. =(1 in 8).

(Same as Lond. Edin. and Dub.; Fr. 1 in 4½, and with fresh Leaves and Spirit, equal weights; Belg. 1 in 5½, also with fresh Leaves; U. S. 1 in 7¾; not in others.)

Dose.—15 to 16 minims.

Not Officinal.

SUPPOSITORIA HYOSCYAMI.—Extract, 5 grs.; Cacao Butter, 6 grs.; Lard, 4 grs.; Wax, 1 gr.: mix for one suppository.

INFUSA.

INFUSIONS.

Infusions, though generally made with boiling water, are in some cases ordered to be made at a lower temperature, as in the case of Infusum Calumbæ, the starch of which would be dissolved by boiling water, and would thus be objectionable to prescribe with Iodine. The mucilage and vegetable albumen present is, however, dissolved by cold water, and these render the infusion liable to change.

The Infusion Pot which I invented, and placed in the Exhibition of 1851, answers well for Infusions if proper sizes are used for the quantities ordered, so that the ingredients are held by the perforated basin in the upper part of the fluid and *under the surface.* The impregnated fluid becoming constantly of greater density falls to the bottom, thus exposing the ingredients to the continued action of fresh unimpregnated fluid until the action ceases, and thus most effectually extracting the soluble matter. *Boiling water should be first poured into the pot, to thoroughly warm it; this being thrown out, the ingredients are put into the colander, and the requisite quantity of boiling water poured upon them. The new pots have the directions for use, enamelled upon them.*

Infusions are very apt to change in hot weather, and several means have been proposed to preserve them. Small bottles filled to the brim with recently-made infusion, may be placed in a boiler with hay and water, and heated to the boiling-point, then tied over with a bladder whilst hot. Infusions thus treated are preserved for several months. Infusion of Senna, which would change in twelve hours in hot weather, will keep for several days perfectly good if one grain of Nitre be dissolved in each ounce of the Infusion.

The following Infusions contained in former Pharmacopœias are omitted from the British;—Infusum Armoraciæ Comp., Inf. Cinchonæ Spissatum (*see* EXTRACTUM LIQUIDUM), Inf. Cinchonæ Pallidæ, Inf. Cinchonæ Pallidæ Spissatum, Inf. Juniperi, Inf. Menthæ Viridis, Inf. Pareiræ, Inf. Simarubæ.

The Infusions introduced into the British Pharmacopœia are, Inf. Dulcamaræ and Inf. Uvæ Ursi.

The following are the Infusions of the British Pharmacopœia.

It has been thought desirable for the convenience of the dispenser to add a table of the ingredients and time required. The full formulæ, however, for these Infusions will be found under the names of the substances from which they are prepared.

Boiling Distilled Water is to be used, unless otherwise stated.

INFUSUM ANTHEMIDIS	½ oz.	Water	10 oz.	Infus.	½ hour and strain.
INF. AURANTII (peel cut small)	½		10		¼
INF. BUCCO (leaves bruised)	½		10		1
INF. CALUMBÆ (coarse powder)	½	cold	10		1
INF. CARYOPHYLLI (bruised)	¼		10		½
INF. CASCARILLÆ (coarse powder)	1		10		1
INF. CATECHU (coarse powder)	160 grs.		10		½
Cinnamon (bruised)	30				
INF. CHIRATÆ (bruised)	¼ oz.	120°	10		½
INF. CINCHONÆ FLAVÆ (coarse powder)	½		10		2
INF. CUSPARIÆ (coarse powder)	½	120°	10		2
INF. CUSSO (coarse powder)	¼		4		¼ not strained.
INF. DIGITALIS (dried leaves)	30 grs.		10		1
INF. DULCAMARÆ (bruised)	1 oz.		10		1
INF. ERGOTÆ (coarse powder)	¼		10		½
INF. GENTIANÆ COMP.					2 hours in spirit, then add the water, and infuse 2 hours more.
Gentian (sliced)	¼				
Bitter Orange Peel (bruised)	30 grs.				
Coriander	30 grs.				
Proof Spirit	2 oz.		10		
Cold Water	8 oz.				
INF. KRAMERIÆ (bruised)	½		10		1
INF. LINI	Linseed 160 grs.		10		4
	French Liquorice Root 60 grs.				
INF. LUPULI	½ oz.		10		2
INF. MATICÆ (cut small)	½		10		½
INF. QUASSIÆ (chips)	60 grs.	cold	10		½
INF. RHEI (sliced)	¼ oz.		10		1
INF. ROSÆ ACIDUM (broken petals)	¼		10		½
Dil. Sulph. Acid	1 drm.				
INF. SENEGÆ	½		10		1
INF. SENNÆ (Ginger sliced, 30 grs.)	½		10		1
INF. SERPENTARIÆ	¼		10		2
INF. UVÆ URSI	½		10		2
INF. VALERIANÆ (bruised)	120 grs.		10		1

IODUM.

IODINE.

I; eq. 127.

Prepared from Kelp, the vitrified ashes of sea-wrack, found in the western islands of Scotland and Ireland. Sublimed in laminar crystals of a dark colour and metallic lustre, and of peculiar odour.

Solubility: sparingly in Water, 1 in 7000; in Alcohol, 1 in 12; and in a solution of Iodide of Potassium, or Chloride of Sodium.

Test.—Entirely soluble in Ether. It sublimes without leaving any residue, and the portion which first comes over does not include any slender colourless prisms, emitting a pungent odour (Cyanide of Iodine). 127 grains dissolved in 1 ounce of Water containing 15 grains of Iodide of Potassium, require for complete decoloration 100 measures of the volumetric solution of Hyposulphite of Soda; *i. e.* to change the whole of the equivalent 127 grains of Iodide into colourless Iodine of Sodium and Tetrathionate of Soda.

(In all the Pharmacopœias; Fr. Iodum bis sublimatum.)

Medicinal Properties.

It acts specially as a stimulant to the entire lymphatic system, causing absorption, promoting elimination by the kidneys, acting as an antidote to certain blood poisons, organic and inorganic, as syphilis and lead-poisoning. Also in chronic inflammation, to promote absorption and elimination in dropsies and chronic rheumatism. Most efficacious in glandular enlargements and morbid growths, as in bronchocele, scrofulous glands of the neck and abdomen, as an alterative in obstinate mucous discharges; caution, however, being used, as it may occasion wasting in healthy glands, such as the mammæ and testes. Externally, in chronic and skin diseases, and over enlarged and indurated parts and diseased joints, to cause absorption. As a speedy vesicant the liniment may be painted over the part. A few drops of the tincture in half a pint of hot water may be inhaled in some forms of chronic bronchitis and phthisis.

Dose.—Of free Iodine, ½ gr., gradually increasing.

Best administered in the form of Tincture, largely diluted with Water.

Contained in Pilula Ferri Iodidi and Syrupus Ferri Iodidi.

The Iodides of Iron, Mercury, and Potassium are officinal; those of Arsenic Cadmium, Sulphur, and Zinc are not officinal.

Preparations.

LINIMENTUM.

Iodine, 5; Iodide of Potassium, 2; Rectified Spirit, 20: dissolve.
=(1 of Iodine in 4½).

A new preparation.

Proper strength to paint upon bursæ and enlarged glands, but if used incautiously it will blister.

TINCTURA.

Iodine, ½; Iodide of Potassium, ¼; Rectified Spirit, 20: dissolve.
=(1 in 40).

Dose.—10 to 30 minims.

(Same quantity of Iodine as Lond. Dub. and U. S.; but with only one-fourth of Iodide of Potassium. The following without the Iodide of Potassium:—Edin. Pr. 1 in 10; Fr. Belg. and U. S. Comp. 1 in 15; Austr. 1 in 20.)

UNGUENTUM COMPOSITUM.

Iodine, 32 grs.; Iodide of Potassium, 32 grs.; Proof Spirit, 1 drm.; Prepared Lard, 2 oz. =(1 in 31).

(Same quantity of Iodine as Lond. Edin. Dub. and U. S., but with only half the quantity of Iodide of Potassium; Belg. 1 in 25, without Iodide of Potassium; Fr. Pommade Iodurée, Iodine 1, Iodide of Potassium 3, Lard 8; not in others.)

Not Officinal.

GARGARISMA IODI (St. Thomas's Hospital).—Tincture of Iodine, 2 drms.; Water, 5 oz.: mix. (In ulceration of the tonsils.) =(1 in 20).

INHALATIO IODI.—Iodine, 2 grs.; Rectified Spirit, 10 minims; Water, ½ oz. (for one inhalation).

INHALATIO IODI CUM CONIO.—½ drm. to 1 drm. of Succus Conii being added to the above.

IODOFORM.—A yellow crystalline substance given to relieve cancer and abate the progress of the disease.

Dose.—5 grs. in a mixture twice a day; the Iodoform should be finely powdered, and at least 20 times its weight of mucilage employed to make it miscible with water.

LIQ. AMMONIÆ IODIDI (Dr. Simpson).—Liq. Ammon. Fortiss., 2 oz.; Iodine, 10 grs.; Iodide of Potassium, 20 grs.; Rectified Spirit, 1 oz.

IPECACUANHA.

IPECACUAN.

The dried root of the *Cephaelis Ipecacuanha*, from Brazil. The active principle resides in the bark, the inner or woody part possessing scarcely any of its virtues.

Ipecacuanha contains an alkaloid, *Emetina* ($C_{35}H_{25}NO_9$), separable as a whitish amorphous powder.

Medicinal Properties.

Emetic in large doses. In small doses it becomes absorbed and acts upon the different mucous surfaces, especially of the respiratory organs, and is therefore expectorant. It is also diaphoretic and laxative; also sedative to the vascular system. Given in agues to prevent the paroxysm.

(In all the Pharmacopœias.)

Dose.—In powder as an emetic, 15 to 30 grs.; as an expectorant, etc., 1 to 2 grs.

Prescribed in ¼ to 1 gr. doses as an auxiliary in alterative pills.

Contained in Trochisci Morphiæ et Ipecacuanhæ.

Preparations.

PULVIS IPECACUANHÆ CUM OPIO. *Syn.* PULVIS IPECACUANHÆ COMP.

Ipecacuan, in powder, 1; Opium, in powder, 1; Sulphate of Potash, 8: mix. =(1 Opium, 1 Ipecac. in 10).

Dose.—5 to 10 grs.

(In all the Pharmacopœias, and is the well-known Dover's Powder, Pr. Pulvis Ipecacuanhæ Opiatus. The original Powder of Dr. Dover was prepared by fusing 4 parts of Nitrate of Potash with 4 of Sulphate of Potash together, and reducing the product to fine powder. To this was added 1 of Ipecacuanha, 1 of Opium, and 1 of Liquorice. The French Codex adopts this formula for Poudre de Dower, using, however, the powdered Extract of Opium instead of Opium itself.)

An admirable anodyne diaphoretic; it is also most useful in dysentery and diarrhœa: in the latter case, it is sometimes combined with calomel.

VINUM.

Ipecacuanha, bruised, 1: Sherry, 20: macerate seven days, shake occasionally, and strain. =(1 in 20).

(Lond. Edin. Dub. and U. S. 1 in 16; Belg. 1 in 16 with Malaga; not in others.)

Dose.—An an expectorant, etc., 5 to 40 minims; as an emetic, 3 to 6 drms.

Not Officinal.

SYRUPUS IPECACUANHÆ (Pr.).—Bruised Ipecacuanha, 3; Rectified Spirit, 10; Water, 84: digest twenty-four hours, and filter 88; add 144 of Sugar, and boil to a syrup.

Dose.—15 to 90 minims.

JALAPA.

JALAP.

The tubers of the *Exogonium Purga*, dried; imported from Mexico.

Medicinal Properties.

A brisk cathartic, operating sometimes painfully, producing copious watery discharges. From its hydragogic powers, especially applicable to dropsy, when it is usually combined with Bitartrate of Potash or Calomel.

(In all the Pharmacopœias.)

Dose.—10 to 30 grains.

Contained in Pulvis Scammonii Compositus.

Preparations.

EXTRACTUM.

Jalap, in coarse powder, 1; Rectified Spirit, 5; Distilled Water, 10: macerate the Jalap in the spirit for seven days, press out the tincture, then filter and distil off the spirit, leaving a soft extract: again macerate the residual Jalap in the water for four hours, express, strain through flannel, and evaporate by a water-bath to a soft extract; mix the two extracts and evaporate to a proper consistence, at a temperature not exceeding 140° F.

100 lb. of Jalap yield 50 lb. extract.

In the former London Pharmacopœias, the Jalap was first digested in Rectified Spirit, then boiled in Water, the tincture and decoction strained separately and mixed, then evaporated to an extract, and a most heterogeneous extract was the result of the process. The British Pharmacopœia directs the root to be digested with the spirit and then with cold water; it is then free from these objections.

Dose.—5 to 15 grs.

(Lond. and U. S.; not in others.)

PULVIS COMPOSITUS.

Jalap, in powder, 5; Acid Tartrate of Potash, 9; Ginger, in powder, 1: mix. =(1 in 3).

Dose.—10 to 20 grs.

(Same strength as Lond. Edin. Dub. and U.S.; not in others.)

RESINA.

A Resin obtained from Jalap by means of Rectified Spirit.

Easily soluble in Rectified Spirit, but only partially so in Ether, and insoluble in Oil of Turpentine.

(Same as Edin. U.S. and Fr.; not in Dub. or in other Pharmacopœias.)

Dose.—2 to 6 grs.

Jalapine, so largely prescribed, is nothing more than this Resin decolorized by Animal Charcoal; it may be given in the same dose, and, being in fine division, is less likely to irritate the bowels.

TINCTURA.

Jalap, in coarse powder, 1; Proof Spirit, 8; macerate forty-eight hours in 6 of the spirit, agitating occasionally, pack in a percolator, and when the fluid ceases to pass, pour on the remaining spirit, press, filter, and add spirit to make 8. =(1 in 8).

(Lond. 1 in 8; Edin. and U.S. 1 in 5; Dub. 1 in 6; Fr. 1 in 4½; Belg. Composita, 1 in 12; not in others.)

Dose.—½ to 2 drms.

2 drachms equal 6 grains of Extract.

JUNIPERI OLEUM.

ENGLISH OIL OF JUNIPER.

The Oil distilled in England from the unripe fruit of the *Juniperus communis.*

Sp. g. 0·855. Of very superior flavour to the imported Oil.

Medicinal Properties.

Stimulant, carminative, and diuretic, the latter property constituting its chief medicinal value. Used in debilitated dropsical cases, either alone or combined with other diuretics.

(In all the Pharmacopœias except Belg. and Fr.)

Dose.—1 to 3 minims.

Preparation.

SPIRITUS JUNIPERI.

English Oil of Juniper, 1; Rectified Spirit, 9: dissolve. =(1 in 10).

Contains about 95 times as much Oil of Juniper as Spiritus Juniperi, Lond.

(Lond. Edin. Dub. U.S. and Belg. were compound spirits; Austr. Pr. and Fr. simple, but very weak.)

Dose.—10 to 30 minims.

KAMELA.

KAMELA.

A granular, orange-red powder, adhering to the capsules of the *Rottlera tinctoria;* imported from India.

Solubility: scarcely mixing with water, but for the most part soluble in, and forming a red-coloured solution with Alcohol and Ether.

Test.—Ether dissolves most of it, the residue consisting principally of tufted hairs.

Medicinal Properties.

Purgative. Successfully given in tænia. Preferred to Kousso and Turpentine.

(In U. S.; but not in other Pharmacopœias.)

Dose.—60 to 120 grs. of the powder suspended in Gruel, Mucilage, Treacle, or Syrup, will of itself expel the worm. A purgative should follow.

Not Officinal.

TINCTURA.—Kamela, 1; Proof Spirit, 5: macerate seven days and strain.

Dose.—1 to 2 drms.

KINO.

KINO.

The juice obtained, by incision, from the trunk of the *Pterocarpus Marsupium*, inspissated; imported from Malabar.

In small, angular, brittle, glistening, reddish-black fragments, translucent, and ruby-red on the edges.

Solubility: of 100 grains Tellicherry Kino, only 88 grains are dissolved by cold Water, and 35 grains of Isinglass will precipitate the whole of the astringent matter from the solution. As soluble as Catechu in water, but the solution is less astringent.

Medicinal Properties.

A powerful astringent. Employed in obstinate diarrhœa and pyrosis. Also used for intermittents, with Cinchona. Externally, as a styptic, and in powder to indolent and flabby ulcers. Best given in diluted Alcohol.

(In all the Pharmacopœias.)

Dose.—10 to 30 grs.

Contained in Pulvis Catechu Composita.

Preparations.

PULVIS KINO CUM OPIO. *Syn.* PULV. KINO COMP., *Lond.*

Kino, in powder, 15; Opium, in powder, 1; Cinnamon, in powder, 4.

20 grains contain 1 grain Opium.

Dose.—5 grs. and upwards, according to the quantity of Opium required.

(Same as Lond.; not in others.)

TINCTURA.

Kino, in powder, 1; Rectified Spirit, 10: macerate seven days, filter, and make 10. =(1 in 10).

(Same as Lond. Edin. and U.S.; Belg. 1 in 6; not in others.)

Dose.—½ to 2 drms.

KOUSSO or KUSSO. *See* CUSSO.

KRAMERIA.

RHATANY.

The dried root of the *Krameria triandra;* imported from Peru.

Medicinal Properties.

A powerful astringent; tonic. Used in chronic diarrhœa, passive hæmorrhages and mucous discharges, as menorrhagia, leucorrhœa: and generally where Kino and Catechu are beneficial. As a gargle in relaxed sore-throat. Locally in prolapsus ani or fissura ani.

(In all the Pharmacopœias.)

Dose.—In powder, 20 to 60 grs.

Contained in Pulvis Catechu Compositus.

Preparations.

EXTRACTUM.

Rhatany, in coarse powder, 1; Distilled Water, 15: macerate twenty-four hours in 2 of the water, then percolate the whole. Evaporate, by a water-bath, to a proper consistence.

Dose.—5 to 20 grs.

(Same as Edin.; U. S. Belg. Fr.; Pr. and Austr. boiling water; not in others.)

INFUSUM.

Rhatany, bruised, 1; boiling Distilled Water, 20: infuse one hour and strain. =(1 in 20).

(Same as Lond. and Dub.; U.S. 1 in 16; Fr. 1 in 100; not in others.)

Dose.—1 to 2 oz.

TINCTURA.

Rhatany, bruised, 1; Proof Spirit, 8: macerate forty-eight hours in 6 of the spirit, agitating occasionally, pack in a percolator; when it ceases to drop, pour on the remaining spirit, and wash the marc with spirit to make up 8. =(1 in 8).

(Dub. and U.S. 1 in 5; Austr. 1 in 7; Belg. and Pr. 1 in 6; not in others.)

Dose.—1 to 2 drms.

Excellent for the teeth and gums when either spongy or inflamed.

Not Officinal.

LACTUCA VIROSA.

LETTUCE.

The leaves and flowering tops of wild indigenous plants gathered when in flower.

Medicinal Properties.—Sedative, narcotic; said also to be gently laxative, powerfully diuretic, and somewhat diaphoretic. Employed in dropsy and in cases of visceral obstruction. Generally combined with Squill, Digitalis, or other diuretics.

Preparations.

EXTRACTUM.—The inspissated juice evaporated to a proper consistence.

Dose.—5 to 10 grs.

100 lb. of the plant yield 52 lb. juice = 5¼ lb. or 84 oz. of extract.

SUCCUS.—The expressed juice, 3; Rectified Spirit, 1: mix.

Dose.—1 to 2 drms.

LACTUCARIUM.—The juice from the incised flower-stalk, collected and dried. (Dub. Edin. and U. S.; not in Lond.)

Dose.—3 to 8 grs.

TINCTURA LACTUCARII.—Lactucarium, 1; Proof Spirit, 10: digest seven days and filter.

Dose.—30 to 60 minims.

These preparations are highly prized by some practitioners for their sedative qualities, whilst others aver that they are almost inert. The Author believes in their virtues.

LAUROCERASUS.

CHERRY-LAUREL LEAVES.

The fresh leaves of the *Prunus Laurocerasus*, cultivated in Great Britain.

Preparation.

AQUA.

Fresh leaves of common Laurel, 16; Water, 50; chop the leaves, crush them in a mortar, and macerate them in the water twenty-four hours; distil 20 of the liquid, using a Chloride of Zinc bath and a Liebig's condenser, shake the product, filter through paper, and preserve in a stoppered bottle. = (1 in 1¼).

(Same strength as Edin. Dub. Fr. Belg. and Austr.; not in others.)

Pr., the Hydrocyanic Acid of the former edition is omitted in the new Prussian Ph.; and Aqua Amygdalarum Amararum is now the only representative, which contains one part of Anhydrous Prussic Acid in 720 parts, and makes it about the same strength of our Aqua Laurocerasi.

The Edinburgh preparation was coloured with Compound Spirit of Lavender.

Medicinal Properties.

Sedative. Similar to Hydrocyanic Acid, but of uncertain strength.

Dose.—10 to 30 minims.

LAVANDULÆ OLEUM.

ENGLISH OIL OF LAVENDER.

The Oil distilled in England from the flowers.

Medicinal Properties.

An aromatic stimulant and carminative. Useful in hysteria, hypochondriasis, and other nervous affections, also in flatulence and colic. Rarely given in a crude state. Used as an adjuvant to other medicines.

Dose.—1 to 4 minims.

Preparations.

SPIRITUS LAVANDULÆ.

English Oil of Lavender, 1; Rectified Spirit, 9: dissolve. =(1 in 10).

(Edin. Pr. Fr. and U. S. fresh flowers, and very much weaker; Austr. dried flowers; not in others.)

Dose.—10 to 50 minims.

TINCTURA LAVANDULÆ COMPOSITA.

English Oil of Lavender, 1½ drm.; English Oil of Rosemary, 10 minims; Cinnamon, bruised, 150 grs.; Nutmeg, bruised, 150 grs.; Red Sandal-wood, 300 grs.; Rectified Spirit, 40 oz.: macerate the Cinnamon, Nutmeg, and Red Sandal-wood in spirit for seven days, then press out and strain; dissolve the Oils in the strained tincture and add sufficient Rectified Spirit to make 40 oz.; or Spirit of Lavender, 9; Spirit of Rosemary, 1; Cinnamon, 15; Nutmeg, 15; Red Sandars, 30; Rectified Spirit, 1920.

(Similar to Lond. Edin. Dub. and U. S.; differs much from Belg.; not in others.)

Dose.—½ to 1 drm. or more.

LIMON.

LEMON.

The ripe fruit of the *Citrus Limonum*, imported from Southern Europe.

LIMONIS CORTEX.

LEMON PEEL.

The fresh outer part of the rind.

Medicinal Properties.

A warm aromatic. Added to stomachic tinctures and infusions. Particularly applicable to dyspepsia.

(Lond. Edin. Fr. U. S.; not in others.)

Preparations.

OLEUM LIMONIS.

The Oil expressed or distilled from fresh peel; imported chiefly from Sicily.

Sp. g. 0·8517 as ordinarily procured. If three-fifths only are distilled, its sp. g. is reduced to 0·847.

Stimulant and carminative. Chiefly used, however, to impart flavour to other medicines. Externally, stimulant and rubefacient.

(Lond. Edin. Dub. U. S.; not in others.)

Its flavour and aroma suffer much from keeping; it should always be procured as fresh as possible.

Dose.—1 to 4 minims.

Contained in Spiritus Ammoniæ Aromaticus.

SYRUPUS LIMONIS.

Fresh Lemon Peel, 2; Lemon Juice, strained, 20; Refined Sugar, 36 add the Sugar and Peel to the Juice with a gentle heat; dissolve and strain. The product should weigh 56 and measure 41.

Sp. g. 1·340.

The Lemon Juice should be first filtered from the suspended *mucus* in order to make a nice bright syrup.

(Same as Lond. Edin. U. S. and Austr. with the addition of the Rind of the Lemon; not in others.)

Dose.—1 to 2 drms.

TINCTURA LIMONIS.

Fresh Lemon Peel, sliced thin, 1; Proof Spirit, 8: macerate for forty-eight hours with 6 of the spirit, pack in a percolator, and when it ceases to drop, wash the marc with the remaining spirit, press, filter, and make up to 8.
=(1 in 8).

Percolation seems hardly necessary for this tincture.

(Lond. 1 in nearly 11; Dub. 1 in 4; not in others.)

Dose.—1 to 2 drms.

LIMONIS SUCCUS.

LEMON JUICE.

The expressed juice of the ripe fruit.

To preserve the juice it may be heated to 150°, filtered and set aside in bottles completely filled. If this process be performed during the winter, it is said that the juice may be kept perfectly good for twelve months. Mr. Schweitzer states that if one-tenth part of Alcohol be added to fresh Lemon Juice, it prevents decomposition, and the juice is rendered fit for exportation.

Medicinal Properties.

Refrigerant; when diluted, a refreshing beverage in febrile and inflammatory affections.

Used with Opium and Cinchona. In acute rheumatism ½ to 1 pint daily. A local application in pruritus scroti, and uterine hæmorrhage.

Dose.—½ drm. to 4 oz.

Contained in Syrupus Limonis.

Preparation.

ACIDUM CITRICUM.—*See* ACIDUM CITRICUM.

LINIMENTUM.

LINIMENTS.

This group has received some valuable additions in the British Pharmacopœia. The Pharmacopœia Committee, in order to guard against mistakes, have called *strong Tinctures* that are employed for external use by the name of *Liniments*, so that all the Tinctures may now be considered for *internal* use only.

The Linimentum Æruginis, Lond., Ammoniæ Compositum, Edin., Ammoniæ Sesquicarbonatis, Lond., were seldom used, and they, together with Linimentum Simplex, Edin., are omitted. Linimentum Cantharidis, made with oil, Dub., is substituted by an ethereal liniment, which blisters readily.

The following new Liniments are given in the British Pharmacopœia :— Linimentum Aconiti, Linimentum Belladonnæ, Linimentum Iodi, Linimentum Terebinthinæ Aceticum.

The following are the Liniments of the British Pharmacopœia, the formulæ of which will be found under the names of the substances from which they are prepared :—

		Proportion of the active ingredient to the whole.
Page 14.	LINIMENTUM ACONITI	1 in 1.
24.	LINIMENTUM AMMONIÆ	1 in 4.
43.	LINIMENTUM BELLADONNÆ	1 in 1.
50.	LINIMENTUM CALCIS	1 in 2.
55.	LINIMENTUM CAMPHORÆ	1 in 5.
55.	LINIMENTUM CAMPHORÆ COMPOSITUM. (Two-thirds stronger of Ammonia than Lond.)	
57.	LINIMENTUM CANTHARIDIS	1 in 2½.
70.	LINIMENTUM CHLOROFORMI	1 in 2.
84.	LINIMENTUM CROTONIS	1 in 8.
117.	LINIMENTUM HYDRARGYRI	1 of Mercury in 6.
125.	LINIMENTUM IODI	of Iodine 1 in 5.
157.	LINIMENTUM OPII	(Tinct. Opii) 1 in 2.
189.	LINIMENTUM SAPONIS.	
215.	LINIMENTUM TEREBINTHINÆ	1 in 2⅔.
215.	LINIMENTUM TEREBINTHINÆ ACETICUM	1 in 3.

LINUM.

FLAX.

The plant *Linum usitatissimum* is almost universally grown, the seeds only being of medicinal value, from which are procured the Meal and the Oil of Linseed.

LINI SEMEN.

LINSEED.

The seeds of the *Linum usitatissimum*, the envelope or testa of which abounds in a peculiar gummy matter or mucilage, readily imparted to hot water.

(Lond. Edin. Dub. Belg. Fr. Pr. U. S.; not in Austr.)

Medicinal Properties.

Demulcent and emollient. Employed in catarrh, dysentery, nephritic and calculous complaints, and inflammatory affections of the mucous membranes and urinary passages.

Preparations.

INFUSUM LINI.

Linseed, 160 grs.; Liquorice Root, sliced, 60 grs.; boiling Distilled Water, 10 oz.: infuse four hours and strain. =(1 in 30).

(Same as Lond. Edin. and U. S.; not in others.)

OLEUM LINI.

The Oil contained in the inner part of the seed expressed without heat. Sp. g. ·927 to ·934.

(In all the Pharmacopœias.)

A useful emollient to burns or scalds, either alone or mixed with Lime Water.

Linseed Oil, when issuing from the seed whilst pressing, has scarcely any of the odour or taste of the Linseed Oil of the shops, but is acquired by a very short exposure to the air. For medicinal purposes it should be procured as fresh as possible.

LINI FARINA.

LINSEED MEAL.

The seeds of the *Linum usitatissimum*, ground and deprived of the oil by expression.

(Pr. Placenta Lini.)

Preparation.

CATAPLASMA LINI.

Linseed Meal, 4; Olive Oil, ½; boiling Water, 10: mix the Linseed Meal with the Oil, add the Water gradually, constantly stirring.

Applied to inflamed and suppurating parts.

(Lond. only, but without oil.)

Critics have said, why deprive the seeds of their oil only to add another oil? The answer is that Linseed should not be kept long after being crushed, for it soon becomes rancid, and the seeds are very troublesome to bruise when wanted; the powder keeps perfectly well, if dry, and the oil can at any time be added, and as Olive Oil answers the purpose and is sweet, it has been preferred for Cataplasms.

LIQUORES.

SOLUTIONS.

The Solutions of former Pharmacopœias which are omitted from the British are :—Liquor Aluminis Compositus, Lond.; Ammoniæ Citratis, Lond.; Ammoniæ Sesquicarbonatis, Lond. Edin.; Antimonii Tartarati (*see* VINUM); Arsenici Chloridi, Lond.; Arsenici et Hydrargyri Hydriodatis, Dub.; Barii Chloridi, Lond. Edin. Dub.; Calcii Chloridi, Edin. Dub.; Cupri Ammonio-Sulphatis, Lond. Edin.; Hydrargyri Bichloridi, Lond.; Hydrargyri Pernitratis (*see* LIQ. HYDR. NITR. ACID.); Iodinii Compositus, Edin.; Morphiæ Acetatis, Lond. Dub.; Potassæ Carbonatis, Lond. Dub.; Potassæ Effervescens, Edin.; Potassii Iodidi Compositus, Lond. Edin. Dub.; Sodæ Carbonatis, Dub.; Sodæ Effervescens, Edin.; Zinci Chloridi, Dub.

The new Solutions introduced into the British Pharmacopœia are :—Liquor Atropiæ, Calcis Saccharatus, Chlori, Ferri Perchloridi, Hydrargyri Nitratis Acidus, Plumbi Subacetatis, Potassæ Permanganatis, Sodæ Arseniatis, Strychniæ.

The following are the Solutions of the British Pharmacopœia, the formulæ of which will be found under the names of the substances from which they are prepared :—

		Weight of solid in measures of fluid.
Page 24.	LIQUOR AMMONIÆ.	
22.	LIQUOR AMMONIÆ ACETATIS (5 times stronger.)	
24.	LIQUOR AMMONIÆ FORTIOR.	
30.	LIQUOR ANTIMONII TERCHLORIDI.	
4.	LIQUOR ARSENICALIS	1 in 120.
38.	LIQUOR ATROPIÆ	1 in 120.
50.	LIQUOR CALCIS	1 in 800.
49.	LIQUOR CALCIS CHLORATÆ	1 in 10.
50.	LIQUOR CALCIS SACCHARATUS	1 in 68.
68.	LIQUOR CHLORI.	
101.	LIQUOR FERRI PERCHLORIDI	1 in 1.
102.	LIQUOR FERRI PERNITRATIS	1 in 7.
119.	LIQUOR HYDRARGYRI NITRATIS ACIDUS.	
148.	LIQUOR MORPHIÆ HYDROCHLORATIS .	1 in 123.
166.	LIQUOR PLUMBI SUBACETATIS.	
167.	LIQUOR PLUMBI SUBACETATIS DILUTUS	1 in 80.
170.	LIQUOR POTASSÆ	1 in 15.
175.	LIQUOR POTASSÆ PERMANGANATIS . .	1 in 120.
201.	LIQUOR SODÆ	1 in 25.
199.	LIQUOR SODÆ ARSENIATIS	1 in 120.
202.	LIQUOR SODÆ CHLORATÆ.	
208.	LIQUOR STRYCHNIÆ	1 in 120.

LITHARGYRUM.

LITHARGE.

Syn. PLUMBI OXIDUM, *Lond. Dub.*

PbO; eq. 111·5.

In heavy scales of a pale brick-red colour.

Protoxide of Lead, when rendered semi-crystalline by incomplete fusion, becomes the semi-vitrified oxide, or litharge.

Soluble in diluted Nitric Acid and in Acetic Acid.

Test.—It dissolves without effervescence in Nitric Acid diluted with 6 volumes of Water, and the solution, when supersaturated with Ammonia and then cleared by filtration, does not exhibit a blue colour—indicating absence of Copper.

Medicinal Properties.

Never used internally. The various preparations are used for abating inflammation.

(Lond. Dub. Austr. and U. S. Plumbi Oxidum; Edin. Belg. Fr.; not in Pr.)

Preparation.

EMPLASTRUM. *Syn.* EMPLASTRUM PLUMBI, *Lond.*

Litharge, in very fine powder, 1; Olive Oil, 2½; Water, 1: boil all the ingredients together gently in a copper pan over a clear fire and keep simmering for four or five hours, stirring constantly until the Oil and Litharge acquire a proper consistence for a plaster, adding more Water during the process if necessary.

This plaster of former Pharmacopœias wanted adhesiveness. The formula of the British Pharmacopœia directs long boiling, which secures sufficient tenacity, and it then resembles the famous strapping-plaster of Dr. Scott, of Bromley.

(Nearly same as Lond. Edin. and Dub.; Austr. Empl. Diachylon Simplex, Litharge, 1, Lard 2—Compositum with Wax and Resins; Belg. Litharge 2, Oil 4, Water 1—also with Wax and Resins; Pr. Simplex, Litharge 5, Ol. Oil 9; U. S. Empl. Plumbi, Litharge 15, Oil 28, Water q. s.)

Equal weights of this and Soap Plaster melted together, makes an excellent plaster for corns.

LITHIA.

LITHIA.

LO; eq. 15.

The Oxide of the alkaline metal Lithium (L; eq. 7), a silver-white, brilliant, ductile metal, having the density of 0·59, being therefore the lightest metal known.

This oxide was introduced into medicinal use by Dr. Garrod. It was discovered in 1817, by Arfvedson. It is obtained from several minerals,—Petalite, Lepidolite, and Tryphilline, from the latter of which the Author has chiefly prepared it.

The process is tedious and difficult, and probably on that account omitted from the British Pharmacopœia.

The Carbonate and Citrate are the only preparations employed therapeutically.

(Not in other Pharmacopœias.)

LITHIÆ CARBONAS.

CARBONATE OF LITHIA.

LO,CO_2; eq. 37.

In white powder or in minute crystalline grains.

Solubility: in cold Water, 1 in 100. Insoluble in Alcohol.

Test.—10 grains of the Salt neutralized with Sulphuric Acid and afterwards heated to redness, leave 14·86 grains of dry Sulphate of Lithia, which, when redissolved in Distilled Water, yields no precipitate with Oxalate of Ammonia or Solution of Lime—indicating absence of Lime.

Medicinal Properties.

Lithia, combined with Carbonic Acid, given in a diluted solution, as in Lithia Water, acts as a powerful diuretic, probably more so than the corresponding Salts of Potash or Soda. In certain states of the system in which Urate of Soda is liable to be deposited in the tissues, leading to the production of gouty inflammation, the administration of Lithia Salts is attended with advantage, probably by aiding elimination and likewise by assisting the solution of the urate in the animal fluids.

Dose.—3 to 6 grs.

A new introduction.

(U. S. only.)

LITHIÆ CITRAS.

CITRATE OF LITHIA.

$3LO,C_{12}H_5O_{11}$; eq. 210.

A white, deliquescent, amorphous powder, made by acting upon 50 grains of Carbonate of Lithia with 100 grains of Citric Acid instead of 90 as directed by the Pharmacopœias.

Solubility: in Water, 1 in 2½, without leaving any residue.

Test.—20 grains of the Salt, burned at a low red-heat, with free access of air, leaves 10·6 grains of white residue: Lithia.

Medicinal Properties.

Similar to those of the Carbonate.

Dose.—5 to 10 grs.

A new preparation.

(In no other Pharmacopœia.)

LOBELIA.

LOBELIA.

The herb *Lobelia inflata* in flower, dried; imported from North America.

Medicinal Properties.

In small doses it is diaphoretic and expectorant. More freely used, it is cathartic and emetic; but as an emetic it is too distressing as well as too hazardous for general use, as it has a powerful effect on the respiration, frequently causing death. It is chiefly used in spasmodic asthma, also in catarrh and other laryngeal and pectoral affections, severe croup, and chronic bronchitis. In some cases a useful adjunct to diuretics.

(In all the Pharmacopœias except Fr. and Pr.)

Preparations.

TINCTURA.

Lobelia, dried and bruised, 1; Proof Spirit, 8: macerate forty-eight hours with 6 of the spirit, agitating occasionally, pack in a percolator, and let it drain, pour on the remaining spirit, and when it ceases to drop, press and wash the marc with spirit to make up 8. =(1 in 8).

(Same as Lond. Edin. and Dub.; Belg. 1 in 5½; Austr. 1 in 6; Pr. 1 in 7½; U. S. 1 in 7¾; not in Fr.)

Dose.—½ to 1 drm. as an antispasmodic; 4 drms. as an emetic.

TINCTURA ÆTHEREA.

Lobelia, dried and bruised. 1; Spirit of Ether, 8: macerate seven days, press, and strain 8. =(1 in 8).

(Same strength as Lond. and Edin.; Belg. 1 in 5½; not in others.)

Dose.—½ to 1 drm.

LUPULUS.

HOP.

The dried catkins of the female plant of the *Humulus Lupulus.*

Medicinal Properties.

Tonic, stomachic, and moderately narcotic. Used in diseases of local debility with morbid vigilance and other nervous derangement, producing sleep where opiates are objectionable. Hops may be used topically as fomentation or poultice, as a resolvent or discutient in painful swellings and tumours.

(Lond. Edin. Belg. U. S.; Pr. Glandulæ Lupuli; not in others.)

The golden dust or scale of the Hop (Lupuline) is sometimes conveniently used in doses of 5 to 10 grs.

Very freshly dried Hops, made into a pillow, procure sleep.

Preparations.

EXTRACTUM.

Hop, 8; Rectified Spirit, 15; Distilled Water, 80: macerate the Hop in the spirit for seven days, press out the tincture, filter, and distil off the spirit, leaving a soft extract; boil the residual Hop with the Water for one hour; then express the liquor, strain, and evaporate by a water-bath to the consistence of a soft extract; mix the two extracts and evaporate at a temperature not exceeding 140° F., to a proper consistence.

(In Lond. and Edin., but without spirit; Fr. Extrait Alcoölic de Houblon; Austr. and Belg. alcoholic from Lupuline; not in others.)

Dose.—5 to 10 grs.

INFUSUM.

Hops, 1; boiling Distilled Water, 20: infuse two hours and strain. =(1 in 20).

(Lond. 1 in 27; U. S. 1 in 32; not in others.)

Dose.—1 to 2 oz.

TINCTURA.

Hop, 1; Proof Spirit, 8: macerate forty-eight hours in 6 of the spirit, agitating occasionally, pack in a percolator, let it drain, add the remaining spirit, and when fluid ceases to drop, wash the marc, filter, and make up 8. =(1 in 8).

(Lond. 1 in 6⅔; U. S. 1 in 6; Dub. and Edin. made with Lupuline, 1 in 8; Belg. with Lupuline 1 in 5½—also Tinctura Vinosa, made with Alcohol and Malaga, 1 in 33; not in others.)

Dose.—½ to 2 drms.

Not Officinal.

EXTRACTUM LUPULINÆ.—Exhaust Lupuline with Rectified Spirit, and evaporate the strained liquor to a proper consistence. The extract produced is just half the original weight of the Lupuline employed.

Dose—3 to 6 grs.

TINCTURA LUPULINÆ.—Lupuline (or the powder attached to the scale of hops recently dried), 1; Rectified Spirit, 8: digest for seven days, strain, press the marc, filter, and add Spirit to make up 8; or by percolation. =(1 in 8).

Dose.—½ to 2 drms.

MAGNESIUM.

Mg; eq. 12.

Magnesium, the metallic base of Magnesian Salts, does not exist native. It may be obtained artificially. When set on fire it produces a powerful actinic light, and is used by photographers on this account.

It is a brilliant grey metal, sp. gr. 1·750, slightly resembling Silver, malleable, fusible at a low temperature, and convertible into Magnesia by the combined action of air and moisture.

Sulphate of Magnesia was first artificially obtained in England by Dr. Grew in 1675, by evaporation from the water of Epsom Spring (whence the name of Epsom Salts). The chief source of the Magnesia now sold is Magnesian Limestone, Double Carbonate of Magnesia and Lime, called Dolomite, and is obtained by a process discovered by Dr. Henry, of Manchester. It was first chemically distinguished

from Lime by Dr. Black, in 1755, who showed the difference between Magnesia and its carbonate. From the mode of procuring it, it is frequently termed Calcined Magnesia.

There are two kinds of Magnesia admitted into the Pharmacopœia, the heavy and the light. The former is that which is commonly used in pharmacy, it being smoother, more readily miscible with water, and is more compact. It is probably from these causes that it is preferred in medicine, and in the Pharmacopœia it is clearly meant to be used, unless the light is expressly ordered.

The forms in which Magnesia is used are :—Magnesia, M. Levis, Magnesiæ Carbonas, M. Carbonas Levis, and M. Sulphas.

MAGNESIA.

MAGNESIA.

MgO; eq. 20.

Heavy Carbonate of Magnesia, heated in a Cornish crucible until all the Carbonic Acid is driven off.

It is a white, heavy powder, scarcely soluble in water, but readily dissolved by acids without effervescence. Its solution in Hydrochloric Acid, when neutralized by a mixed solution of Ammonia and Hydrochlorate of Ammonia, gives a copious crystalline precipitate when Phosphate of Soda is added to it.

Solubility: in cold water, 1 in 5412; in hot water, 1 in 36,000; like lime, it is more soluble in cold than in hot water.

Test.—Dissolved in Nitric Acid and neutralized with a mixture of Ammonia and Hydrochlorate of Ammonia, it does not give any precipitate with Oxalate of Ammonia or Chloride of Barium—indicating absence of Lime and Sulphates.

Medicinal Properties.

Antacid, laxative, and antilithic. Much used in dyspepsia, heartburn, sick headache, gout, and other complaints attended with acidity and constipation. As a laxative, it may often be used with advantage when other medicines occasion nausea; generally combined with other purgatives. It is an excellent and mild purgative for children.

It frequently becomes aggregated into a solid mass when prescribed in mixtures, especially when prescribed with the sulphate.

(In Dub.; not in any other Pharmacopœia.)

Dose.—10 to 20 grs. as an antacid and alterative, 20 to 60 grs. as a purgative.

Although the heavy powder is preferred by many from its smoothness, the light powder is found to be quicker in its action.

MAGNESIA LEVIS.

LIGHT MAGNESIA.

MgO; eq. 20.

Light Carbonate of Magnesia, heated in a Cornish crucible until all the Carbonic Acid is driven off.

A bulky white powder, differing from Magnesia (heavy Magnesia) only in its great levity, the volumes corresponding to the same weight being in the ratio of $3\frac{1}{2}$ to 1.

It does not mix so readily with water nor does it make so smooth a draught as the heavy.

Test.—Does not effervesce with Acids.

(In all the Pharmacopœias.)

Dose.—10 to 20 grs. as an antacid; 20 to 60 grs. as a purgative.

Contained in Pulvis Rhei Comp.

MAGNESIÆ CARBONAS.

CARBONATE OF MAGNESIA.

$$3(MgO,CO_2,+HO)+MgO,2HO;\ \text{eq. } 191.$$

A white granular powder, precipitated from a boiling solution of Sulphate of Magnesia by a solution of Carbonate of Soda, the whole evaporated to dryness, and the dry residue digested in water and collected on a filter and washed, so that the Sulphate of Soda is entirely washed out.

Test.—With excess of Hydrochloric Acid it forms a clear solution, in which Chloride of Barium causes no precipitate—indicating absence of Sulphuric Acid. Another portion of the solution, supersaturated with Ammonia, gives no precipitate with Oxalic Acid—indicating absence of Lime. 50 grains calcined at red-heat are reduced to 22.

(Dub. Magnesiæ Carbonas Ponderosum; not in any other Pharmacopœia.)

Dose.—10 to 20 grs. as an antacid; 30 to 60 grs. as a purgative.

MAGNESIÆ CARBONAS LEVIS.

LIGHT CARBONATE OF MAGNESIA.

$$3(MgO,CO_2+HO)+MgO,2HO;\ \text{eq. } 191.$$

A very light powder, precipitated cold from Sulphate of Magnesia solution by Carbonate of Soda, the precipitate bing washed in boiling water until the washings do not precipitate with Chloride of Barium. When examined under the microscope, it is found to be partly amorphous, with numerous slender prisms intermixed. In other respects it is similar to Magnesiæ Carbonas.

Solubility: in cold water, 1 in 2493; in hot water, 1 in 9000.

Fluid Magnesia is prepared by impregnating water with Carbonic Acid under pressure in which freshly-precipitated Carbonate of Magnesia is suspended.

(In all the Pharmacopœias except Fr.)

Dose.—10 to 20 grs. as an antacid; 30 to 60 grs. as a purgative.)

MAGNESIÆ SULPHAS.

SULPHATE OF MAGNESIA.

MgO,SO_3+7HO; eq. 123.

In minute, colourless, transparent, rhombic prisms, possessing a bitter taste.

Solubility: in cold water, 10 in 13.

Test.—The aqueous solution, at ordinary temperatures, is not precipitated by Oxalate of Ammonia—indicating absence of Lime. The precipitate given by Carbonate of Soda, when obtained from a boiling solution of 100 grains of the salt, should, when well washed, dried, and heated to redness, weigh 16·26 grains.

(Lond. Edin. Dub. U. S.; Belg. Pr. and Austr. Magnesia Sulphurica; not in Fr.)

Medicinal Properties.

A mild and safe cathartic, operating with little pain or nausea. Used in colic and obstinate constipation, and in most cases where a cathartic is required which shall not cause debility or relaxation of the stomach.

Dose.—2 to 4 drms.

Preparation.

ENEMA.

Sulphate of Magnesia, 1; Olive Oil, 1; Mucilage of Starch, 15: dissolve the Magnesia in the Mucilage, then add the Oil.

(Edin. Dub. Enema Catharticum; not in others.)

Sulphate of Magnesia should not be prescribed with Potassio-tartrate of Soda, for although the solution of these two salts are transparent when first mixed, yet after a short time, Tartrate of Magnesia will precipitate, the following prescription will illustrate this:—

℞ Sodæ Potassio-tart. ʒj, Magnes. Sulph. ʒij, Aquæ ad ℥iss.

MANNA.

MANNA.

A concrete exudation from the stem of the *Fraxinus Ornus*, obtained by incision; imported from Sicily and the south of Europe,

Soluble in Water, 1 in 5; and Rectified Spirit.

Medicinal Properties.

Nutritious, particularly when recent. A mild laxative; does not excite inflammation; useful for children and delicate females.

(In all the Pharmacopœias.)

Dose.—As a laxative, from 2 drms to 1 oz.

MASTICHE.

MASTICH.

A resinous exudation from the stem of the *Pistacia Lentiscus*, obtained by incision; imported from Turkey and the Levant.

Solubility: insoluble in Water; wholly soluble in Ether, Chloroform, and Oil of Turpentine; scarcely soluble in fixed Oils.

Sp. g. 1·074.

Medicinal Properties.

Stimulant. Chiefly prescribed in pills to divide active medicines, and especially with mercurials when the pills are to be silvered, to prevent the silver being acted on by the mercury.

(In all the Pharmacopœias.)

Dose.—In powder, 20 to 40 grs.

Cotton, saturated in a solution of 4 parts of Mastich with 1 of Ether, is a good stopping for decayed teeth.

MATICA.

MATICO.

The dried leaves of *Artanthe elongata*, from Peru.

Medicinal Properties.

A agreeable aromatic tonic and stimulant, influencing the urinary passages. Locally (in substance) as a styptic, on the supposition that its action is mechanical. Its styptic properties, however, may depend on the Terebinthinate Oil it contains.

(Dub. U. S.; not in others.)

Dose.—Of the powder, ½ to 2 drms. three times daily.

Preparation.

INFUSUM.

Matico, cut small, 1; boiling Distilled Water, 20: infuse half an hour, and strain.

(Same as Dub.; not in others.)

Dose.—1 to 2 oz.

Not Officinal.

TINCTURA (Dub.).—Matico leaves, in coarse powder, 1; Proof Spirit, 5: macerate fourteen days, strain, express and filter. = (1 in 5).

Astringent. Useful in catarrh of the bladder of the aged.

Dose.—1 to 2 drams.

MEL.

HONEY.

A saccharine secretion deposited by the Hive Bee in the honeycomb.

Test.—Boiled with Water for five minutes, and allowed to cool, it does not become blue with the Solution of Iodine—indicating absence of Flour.

(In all the Pharmacopœias.)

Medicinal Properties.

Demulcent and laxative, but apt to gripe and occasion flatulency when given in efficient doses; this is more particularly the case with old honey. It is more generally used as a vehicle for other medicines. A useful addition to gargles. An external application to foul ulcers.

Preparations.

MEL BORACIS.—*See* BORAX.

MEL DEPURATUM. CLARIFIED HONEY.

Melt in a water bath, and strain while hot through flannel previously moistened with warm water.

(In all the Pharmacopœias, except Edin.)

OXYMEL.

Clarified Honey, 8; Acetic Acid, 1; Distilled Water, 1: liquefy the Honey by heat, and mix.

A pleasant addition to Gargles. Sometimes used as a vehicle to expectorant medicines, and to flavour fever drinks.

(Same as Lond. and Dub.; Pr. Austr. Honey 2, Common Vinegar 1; Fr. do. with Acetic Acid; Belg. Honey 4, Sugar 4, Dil. Acet. Acid 3; not in others.)

Dose.—2 to 4 drms.

Mel Rosæ is omitted from the Pharmacopœia.

MENTHÆ PIPERITÆ OLEUM.

ENGLISH OIL OF PEPPERMINT.

The Oil distilled in England from the *Mentha piperita* when in flower.

Sp. g. 0·920.

Medicinal Properties.

A grateful aromatic, stimulant, and carminative. Allays nausea, relieves spasmodic pains in the stomach, expels flatus. Covers the taste of nauseous medicines, such as Rhubarb, and mitigates the griping effect of purgatives. Useful in the flatulent colic of children.

The fresh herb, bruised, and applied to the epigastrium, often allays sickness, and is useful in cholera infantum.

(In all the Pharmacopœias except Dub.)

Dose.—1 to 4 minims on sugar, or in emulsion.

Preparations.

AQUA MENTHÆ PIPERITÆ.

English Oil of Peppermint, 1½ drm.; Water, 1½ gall.: distil 1 gall.

(Dub. from essences; U. S. stronger; Lond. Edin. Austr. Belg. Pr. and Fr. from the herb.)

Dose.—1 to 2 oz.

SPIRITUS MENTHÆ PIPERITÆ.

English Oil of Peppermint, 1; Rectified Spirit, 9: dissolve. =(1 in 10).

Contains about 44 times as much Oil of Peppermint as Sp. Menth. Pip., Lond.

(Lond. 1 in 435; U. S. from the oil and leaves; Edin. and Fr. Alcoölat de Menthe Poivrée from fresh herb; Austr. from dry herb; not in others.)

Dose.—10 to 30 minims, or for children under five years, 1 or 2 minims.

NOTE.—An agreeable Syrup is made by adding 20 minims of the Spirit to 1 oz. of Syrup.

MENTHÆ VIRIDIS OLEUM.

ENGLISH OIL OF SPEARMINT.

The Oil distilled in England from the *Mentha viridis* when in flower.

Medicinal Properties.

Similar to those of Oleum Menthæ Piperitæ.

(In all the Pharmacopœias except Edin. and Fr.)

Dose.—1 to 4 minims on sugar, or in emulsion.

Preparation.

AQUA MENTHÆ VIRIDIS.

English Oil of Spearmint, 1½ drm.; Water, 1½ gall.: distil 1 gall.

(Dub. from essence; U. S. stronger; Lond. Edin. Austr. Belg. with Spirit and from dry herb; not in others.)

Dose.—1 to 2 oz.

MEZEREUM.

MEZEREON.

The dried bark of the *Daphne Mezereon.**

Medicinal Properties.

A stimulant, acting on the kidneys. Rarely used alone. With Sarsaparilla it is employed as a sudorific and alterative in venereal, rheumatic, scrofulous, and chronic cutaneous diseases. Applied to the skin, it produces inflammation and vesication, though slow in action.

The bark soaked in hot vinegar-and-water is applied with a compress to produce a blister: ointment of the bark is used to keep issues or blisters open.

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* The Author, in Pharm. Journ. vol. i., exposed the practice of herbalists selling the root of *Daphne Laureola* for that of *Daphne Mezereon*, and reported some experiments made to ascertain their relative values.

Contained in Decoctum Sarsæ Compositum.

(Lond. Edin. Dub. U. S. Belg. Austr. and Pr.; not in Fr.)

Not Officinal.

UNGUENTUM MEZEREI (*Pr.*).—Ethereal Extract (made by acting upon an alcoholic extract with Ether), 1 part; Wax Ointment, 7: mix.

MISTURÆ.

MIXTURES.

The following mixtures, which were in former Pharmacopœias, are omitted from the British:—Mistura Acaciæ (*see* MUCILAGO ACACIÆ); Althææ, Edin.; Camphoræ, Lond. Edin. Dub. (*see* AQUA CAMPHORÆ); Camphoræ cum Magnesia, Edin.; Ferri Aromatica, Dub.; Gentianæ Composita, Lond.; Hordei, Lond. and Edin.; Spiritus Vini Galliei, Lond.

The following are the mixtures of the British Pharmacopœia:—

		Proportions.
Page 26.	MISTURA AMMONIACI	1 in 32.
26.	MISTURA AMYGDALÆ.	
82.	MISTURA CREASOTI	1 minim to 1 oz., or 1 in 480.
83.	MISTURA CRETÆ	14 grs. to 1 oz., or 1 in 34.
97.	MISTURA FERRI COMPOSITA	1 in 128.
114.	MISTURA GUAIACI	11 grs. to 1 oz., or 1 in 42.
192.	MISTURA SCAMMONII	2 grs. to 1 oz., or 1 in 240

MORI SUCCUS.

MULBERRY JUICE.

The juice of the ripe fruit of the *Morus nigra*.

Medicinal Properties.

Refreshing and laxative; serves to prepare a grateful drink well adapted to febrile cases.

Preparation.

SYRUPUS MORI.

Mulberry Juice, 20; Refined Sugar, 32; Rectified Spirit, 2½: dissolve the Sugar in the Juice by a gentle heat; remove the scum, and add the spirit; the product should weigh 54. Sp. g. 1·330.

(Lond. Fr. Austr. and Belg.; not in others.)

Dose.—Ad libitum.

An agreeable addition to a gargle for sore-throat. Used as a colouring matter for draughts, 1 drm. to 1 oz.

MORPHIÆ HYDROCHLORAS.

HYDROCHLORATE OF MORPHIA.

The Hydrochlorate of an Alkaloid, $C_{34}H_{19}NO_6, HCl + 6HO$, eq. 375·5, prepared from Opium.

In white, flexible, acicular prisms of a silky lustre.

Solubility: in Water, 1 in 20; in Spirit, 1 in 90.

Test.—Entirely destructible by heat, leaving no residue. 20 grains of the Salt, dissolved in half an ounce of warm water, with Ammonia added in the slightest possible excess, gives, on cooling, a crystalline precipitate, which, when washed with a little cold water, and dried by exposure to the air, weighs 15·18 grains—pure Morphia.

As pure Morphia is insoluble in Water, it is rarely used in medicine, the Salts only are used. Of these, the Pharmacopœia has selected the Hydrochlorate as being the most uniform in its composition.

(In all the Pharmacopœias; Edin. Dub. Morphiæ Murias.)

1 gr. = 8 grs. Gum Opium = 7 grs. of Powder = 4 grs. of Extract or 96 minims Tinct.

Medicinal Properties.

Hydrochlorate of Morphia possesses the anodyne and soporific powers of Opium, yet it acts more agreeably, being less likely to produce headache and nausea. It is also less exciting and stimulating than Opium.

Dose.—$\frac{1}{8}$ to $\frac{1}{2}$ gr.

Preparations.

LIQUOR.

Hydrochlorate of Morphia, 4 grs.; Dilute Hydrochloric Acid, 8 minims; Rectified Spirit, 2 drms.; Distilled Water, 6 drms.: dissolve. =(1 in 123).

(Same as Edin. and Dub. 4 grs. to 1 oz.; Lond. 8 grs. to 1 oz.; not in others.)

Each fluid drachm contains half a grain.

Dose.—15 to 30 minims.

SUPPOSITORIA MORPHIÆ.

Hydrochlorate of Morphia, 3 grs.; Refined Sugar, 30 grs.; Prepared Lard, a sufficiency; White Wax, a sufficiency; melt Lard, 30 grs.; Wax, 30 grs., in a water-bath, then mix them thoroughly with the Morphia and Sugar, previously rubbed together. Divide into 12 suppositories, dip them into a melted mixture of Wax, 3; and Lard, 8.

Each suppository contains $\frac{1}{4}$ grain of Hydrochlorate of Morphia.

A new preparation.

TROCHISCI MORPHIÆ.

Hydrochlorate of Morphia, 20 grs.; Tincture of Tolu, $\frac{1}{2}$ oz.; Refined Sugar, in powder, 24 oz.; Gum Arabic, in powder, 1 oz.; Mucilage of Gum Arabic, 2 oz., or a sufficiency; boiling Distilled Water, $\frac{1}{2}$ oz.: divide the mass into 720 lozenges.

Each lozenge contains $\frac{1}{36}$ gr. of Hydrochlorate of Morphia.

Dose.—One or two occasionally for cough.

(Edin. only.)

TROCHISCI MORPHIÆ ET IPECACUANHÆ.

Hydrochlorate of Morphia, 20 grs.; Ipecacuan, in fine powder, 60 grs.; Tincture of Tolu, ½ oz.; Refined Sugar, in powder, 24 oz.; Gum Arabic, in powder, 1 oz.; Mucilage of Gum Arabic, 2 oz., or a sufficiency; boiling Distilled Water, ½ oz.: divide the mass into 720 lozenges.

Each lozenge contains $\frac{1}{36}$ gr. of Hydrochlorate of Morphia, and $\frac{1}{12}$ of Ipecacuan.

Dose.—One or two occasionally for cough.

(Edin. only.)

For preparations of Morphia which are not officinal, see OPIUM.

MORRHUÆ OLEUM

COD LIVER OIL.

The Oil extracted from the fresh liver of the *Gadus Morrhua* by a steam-heat not exceeding 180°.

Sp. g. from 0·915 to 0·929.

(In all the Pharmacopœias except Edin. and Fr.; Austr. Belg. Pr. Ol. Jecoris Aselli.)

Medicinal Properties.

It has long been employed in the north of Europe in rheumatic and strumous diseases, and was first recommended to the profession generally by the German practitioners; but it was not till the appearance of Professor Bennet's treatise in 1841 that it came into general use in England.

Its value is thought to depend on the iodine contained in it, but it is rarely found in the best oil in greater proportion than ·05 per cent.

Demulcent and nutrient. Most efficient in scrofulous diseases, glandular swellings, diseases of the joints, tabes mesenterica, rickets and chronic rheumatism; and generally in all chronic cases of impaired digestion, assimilation, and nutrition. In pulmonary consumption it deservedly possesses a high reputation.

Dose.—1 to 4 drms. on Orange Juice, water, or a mixture of Tincture of Orange with Nitric Acid and Syrup.

It has lately been asserted that the water which oozes from the Livers possesses the properties of the Oil in an eminent degree, and the manner of evaporating and purifying the extract has been patented. 5 grains of the Extract is said to be equal in value to a tablespoonful of Cod Liver Oil!

28 lb. Livers yield 12 lb. of Oil, and 1 lb. of Water which, when evaporated, yields 2 oz. of Extract.

MOSCHUS.

MUSK.

The inspissated and dried secretion from the preputial follicles of the *Moschus moschiferus*, a native of Thibet and other parts of Central Asia.

In grains or lumps concreted together, soft and unctuous to the touch, of a reddish-brown or ferruginous colour, having a strong and peculiar odour; contained in an oval sac or membrane about two inches in length.

Ether is a good solvent of Musk.

(In all the Pharmacopœias; Fr. Musc.)

Medicinal Properties.

Stimulant and antispasmodic, increasing the vigour of the circulation without materially affecting the cerebral functions. It may be given in almost all spasmodic diseases, particularly in cases of great prostration with intense nervous excitement.

Dose.—5 to 10 grs. in pill or mixture.

Not Officinal.

MISTURA (Lond.).—Musk, 3; Acacia, 3; Sugar, 3; Rose Water, 160: triturate the Musk with the Sugar, then with the Acacia; add the Rose Water gradually.

Dose.—1 to 2 oz.

MUCILAGINES.

MUCILAGES.

Mucilages are employed more as vehicles than as remedies. Mucilage of Acacia is sometimes given to relieve irritating cough, but more generally to render Oils and solutions of Resins miscible with Water; *see* ACACIA. M. Amyli, for Enemas; M. Tragacanthæ, for Lozenges, and also for suspending heavy powders in mixtures, in preference to M. Acaciæ.

Mucilago Hordei, Dub., is the only one of the former Pharmacopœias which is omitted, and is replaced by Decoctum Hordei in the British Pharmacopœia.

The Mucilagines retained are:—

Page 1.	MUCILAGO ACACIÆ	1 in 2.
27.	MUCILAGO AMYLI	1 in 40.
219.	MUCILAGO TRAGACANTHÆ	1 in 48.

MYRISTICA.

NUTMEG.

The kernel of the seed of the *Myristica officinalis*, imported from Sumatra and the Molucca Islands.

Medicinal Properties.

Aromatic, stimulant, and carminative. Chiefly used to cover the taste of rhubarb and other medicines.

(In all the Pharmacopœias except Fr.; Austr. Belg. Nux Moschata; Pr. Semen Myristicæ.)

Dose.—5 to 15 grains.

Contained in Pulvis Aromaticus, Tinctura Lavandulæ Composita.

Preparations.

ADEPS. CONCRETE OIL OF NUTMEGS.

A concrete oil, obtained from Nutmegs by expression and heat.

(Lond. and Edin.; not in other Pharmacopœias.)

Contained in Emplastrum Picis.

OLEUM.

The oil distilled from Nutmegs in England. This injunction of the British Pharmacopœia is necessary, the foreign oil being very much inferior to the English distilled.

(Same as Edin. and U. S.; Austr. Belg. Pr. Oleum Macidis; not in others.)

Dose.—2 to 6 minims on sugar, or in emulsion.

SPIRITUS.

Volatile Oil of Nutmeg, 1; Rectified Spirit, 9: dissolve. =(1 in 10).

(Lond. and Edin. and U. S. are very weak preparations; not in others.)

Dose.—10 to 20 minims.

MYRRHA.

MYRRH.

A gum-resinous exudation from the stem of the *Balsamodendron Myrrha*, collected in Arabia Felix and Abyssinia.

In irregular-shaped tears, of a reddish-yellow or reddish-brown colour.

Solubility: partially in Water, Alcohol, and Ether.

(In all the Pharmacopœias.)

Medicinal Properties.

A stimulant tonic. Useful in humid asthma and chronic catarrh; also in chlorosis and defective menstruation. Externally to aphthous sore mouths and diseased gums.

Dose.—10 to 30 grs.

Contained in Decoctum Aloes Compositum, Pilula Aloes et Myrrhæ, Pilula Rhei Composita.

Preparation.

TINCTURA.

Myrrh, in coarse powder, 1; Rectified Spirit, 6: macerate forty-eight hours with 6 of the spirit, agitating occasionally, pack in a percolator, and when it ceases to drop, pour on the remaining spirit, wash the marc, press, and make up to 8. =(1 in 8).

(Lond. Dub. Edin. and U. S. 1 in 10; Austr. 1 in 7; Pr. 1 in 7¾; Belg. 1 in 6; Fr. 1 in 4.)

Dose.—½ to 1 drm. More frequently used mixed with water to form a gargle.

Not Officinal.

Gargarisma Myrrhæ.—Tincture of Myrrh, 1; Honey, 1; Infusion of Roses, 18: mix.

Tincture of Myrrh and Borax.—*See* Borax.

NECTANDRA.

BEBEERU BARK.

The bark of the *Nectandra Rodiæi*, imported from British Guiana,

This bark is intensely bitter, and contains an alkaloid, Beberia ($C_{38}H_{21}NO_6$), very soluble in Alcohol, less so in Ether, and very slightly in Water. The Sulphate is chiefly used.

A new introduction.

(In U. S.)

Medicinal Properties.

Tonic and antiperiodic. Used in remittent and intermittent fevers, though not to be relied on as a substitute for the Sulphate of Quinia.

Preparation.

BEBERIÆ SULPHAS.—*See* BEBERIÆ SULPHAS.

NUX VOMICA.

NUX VOMICA.

The seeds of the *Strychnos Nux-vomica*, imported from the East Indies.

Medicinal Properties.

In very small doses, tonic, and laxative by stimulating the muscular coat of the bowel. In larger doses it operates on the whole system through the spinal motor nerves, indicated by involuntary muscular contractions. Useful in palsy and all paralytic affections, and in cases of feeble contractile powers. It is recommended in chorea and atonic dropsy, and in debilitated conditions of the alimentary canal. The extract and tincture are the preparations generally prescribed.

(In all the Pharmacopœias; Pr. Semen Strychni.)

Dose.—Of the Powder, 1 to 3 grs.

Preparations.

STRYCHNIA.—*See* STRYCHNIA.

EXTRACTUM.

Soften Nux Vomica by steam, dry rapidly, and reduce to fine powder; boil with Rectified Spirit until exhausted, strain, distil off the spirit, and evaporate to a proper consistence.

(Same as Lond. Edin. U. S. Austr. Belg. Fr.; Pr. has a spiritous extract reduced to powder, dose 1 gr., and an aquous extract, also reduced to powder, dose 4 grs.—they are named Extractum Seminis Strychni Spirituosum and Aquosum respectively; not in Dub.)

16 oz. nuts yield 1 oz. extract.

Dose.—⅛ to 1 gr. Often with Aloes and Ipecacuanha.

TINCTURA.

Nux Vomica, 1; Rectified Spirit, 10: soften the Nux Vomica by steam,

dry rapidly, and reduce to fine powder. Macerate forty-eight hours in three-fourths of the spirit, agitating occasionally, pack in a percolator, let it drain, pour on the remaining spirit, and when it ceases to drop, press, filter, and make up to 10. =(1 in 10).

(Pr. and Belg. 1 in 6; U.S. 1 in 3¾; Fr. and old Dub. 1 in 4; Austr. 1 in 7½; Pr. Tinct. Seminis Strychni, 1 in 7½, dose 12 minims; not in others.)

Dose.—10 to 30 minims.

½ oz. of Extract, dissolved in 40 oz. of Rectified Spirit, is equal in strength to the Tincture.

Not Officinal.

St. Ignatius's Bean.—The seeds of the *Ignatia amara*, from the Philippine Islands. They contain the same constituents as Nux Vomica, and afford about 1·2 per cent. of Strychnia.

An alcoholic Extract is made of this in the same manner as that of Nux Vomica.

Chiefly used in cases of debility of the digestive organs, and in all instances where Nux Vomica is employed.

Dose.—⅛ to 1 gr. in pill three times a day.

OLEA.

OILS.

The Oils ordered in the Pharmacopœia consist of expressed and distilled oils: viz. the expressed are those of the Almond and the Olive, which are chiefly used for ointments and liniments; Castor and Linseed Oil appear in the Materia Medica, but are not used for preparations; Croton is the last seed-oil ordered, and is used for Linimentum Crotonis; we have also the expressed oil from the Lemon-rind. All the other oils are obtained by distillation.

The following Oils, found in former Pharmacopœias, are now omitted:—Oleum Ethereum, Lond.; Copaibæ, Edin.; Fœniculi, Lond.; Cassiæ, Edin.; Bergamotæ, Edin.; Aurantii, Edin. Dub.; Pulegii, Lond.; Rosæ, Edin. Dub.; Succini, Dub.

The following are newly introduced:—Oleum Coriandri, Cubebæ.

The following are the Oils of the British Pharmacopœia, and will be found under the names of the substances from which they are derived:—

Page 26. OLEUM AMYGDALÆ. Expressed from the seed.
28. OLEUM ANETHI. Distilled from the fruit.
28. OLEUM ANISI. Distilled from the fruit and imported.
29. OLEUM ANTHEMIDIS. Distilled from the flowers.
47. OLEUM CAJUPUTI. Distilled from the leaves and imported.
60. OLEUM CARUI. Distilled from the fruit.
61. OLEUM CARYOPHYLLI. Distilled from the flower-bud.
74. OLEUM CINNAMOMI. Distilled from the bark.
80. OLEUM COPAIBÆ. Distilled from the Oleo-resin.
80. OLEUM CORIANDRI. Distilled from the fruit.
84. OLEUM CROTONIS. Expressed from the seeds.

Page 85. OLEUM CUBEBÆ. Distilled from the unripe fruit.
128. OLEUM JUNIPERI. Distilled from the unripe fruit.
132. OLEUM LAVANDULÆ. Distilled from the flowers.
132. OLEUM LIMONIS. Expressed from the fresh peel and imported.
135. OLEUM LINI. Expressed from the seeds.
145. OLEUM MENTHÆ PIPERITÆ. Distilled from the fresh herb.
146. OLEUM MENTHÆ VIRIDIS. Distilled from the fresh herb.
149. OLEUM MORRHUÆ. Extracted from fresh liver by heat.
151. OLEUM MYRISTICÆ. Distilled for the seed kernel.
154. OLEUM OLIVÆ. Expressed from the fruit and imported.
163. OLEUM PIMENTÆ. Distilled from the unripe berry.
182. OLEUM RICINI. Expressed from the seeds and imported.
185. OLEUM ROSMARINI. Distilled from the flowering tops.
185. OLEUM RUTÆ. Distilled from the fresh leaves and fruit.
186. OLEUM SABINÆ. Distilled from fresh Savin.
215. OLEUM TEREBINTHINÆ. Distilled from Turpentine and imported.

OLIVÆ OLEUM.

OLIVE OIL.

The Oil expressed from the fruit of the *Olea Europæa*, in the south of Europe.

Sp. g. 0·9153.

Solubility: in Ether, 1 in 2; partially in Rectified Spirit.

(In all the Pharmacopœias.)

Medicinal Properties.

Nutritious and mildly laxative. Internally, as a demulcent, in the form of emulsion. Used in laxative enemata. It is most extensively used in pharmacy, in liniments, ointments, and plasters.

Contained in Linimentum Calcis, Linimentum Camphoræ, and Cataplasma Lini.

OPIUM.

OPIUM.

The inspissated juice of the *Papaver somniferum*, obtained from the unripe capsules grown in Asia Minor.

Opium is derived almost exclusively from the *Papaver somniferum*. This plant was cultivated by the early Greeks, and is at present grown for its Opium, in India, Persia, Egypt, and Asiatic Turkey. In France and Germany, it is cultivated more for the sake of its seed, and in England for its capsules. The process of wounding the capsules and collecting the Opium has continued the same for the last 1800 years.* Smyrna Opium, and also

* An interesting account of this process is given by Mr. Maltass, in the 'Pharmaceutical Journal,' March, 1864.

that of Constantinople, is employed in this country. Specimens of Persian Opium in fingers, of Patna in squares, of Benares in balls covered with skin, and Egyptian in flat pieces like that of Constantinople, are to be found in several museums. Good Smyrna Opium yields, according to Mulder, from 9 to 11 per cent. of Morphia, together with Codeia, Narcotina, Papaverin, Paramorphia (Thebaica), Narcein, Meconin, Meconic Acid, Opianine, besides extractive and fatty matters.

MORPHIA.—Discovered by Sertuener. Crystallizes in nearly white flat, six-sided prisms, alkaline in reaction, soluble in Alcohol, *soluble, without decomposition, in solution of Potash,* insoluble in Water or Ether, forming crystallizable salts with acids. It is coloured intensely yellow by Nitric Acid, and blue by Perchloride of Iron. Intensely bitter.

CODEIA.—Discovered by Robiquet, in 1832. It crystallizes in white octahedrons, alkaline in reaction. Soluble in Water, Ether, and Alcohol; *insoluble in solution of Potash.* It does not become red with Nitric Acid, nor blue with Persalts of Iron. It exists in Opium, combined with Meconic Acid, like Morphia, and in the preparation of the Muriate of Morphia is extracted with it. From the mixed solution, Morphia is thrown down by Ammonia, when the Codeia is left in solution, and may be obtained by evaporation; it is redissolved in hot Ether, which on evaporation leaves the Codeia. It forms crystalline salts with acids. It has been said that its therapeutic action is like that of Morphia. Dr. Gregory took 3 grains without any effect, and he found that it required a dose of 4 to 6 grains to produce sensible effects; but it did not procure sleep.

NARCOTINA.—First noticed by Derosne, in 1803. In thin pearly tables. It is neutral. Insoluble in Water; soluble in Ether, in boiling Alcohol, in dilute acids; *insoluble in solution of Potash.* Forms a yellow solution with Nitric Acid and a blue one with Perchloride of Iron. It has no narcotic properties, and has therefore been called Anarcotina; it has been given in 5-grain doses as a substitute for Quinia.

PAPAVERIN.—Discovered by Dr. Merck. In white crystalline needles. Insoluble in Water; sparingly soluble in Alcohol and Ether. Moistened with strong Sulphuric Acid, it becomes dark blue.

PARAMORPHIA (Thebaica),—discovered by Pelletier. In white crystalline needles. Soluble in water, in Alcohol, 1 in 10, and in Ether. Unites with acids. Not reddened by Nitric Acid, nor rendered blue by Persalts of Iron. In doses of 1 grain it produces tetanic spasms.

NARCEIN.—Discovered by Pelletier, in 1832. In white, silky, acicular crystals: neutral, with a slightly bitter taste. Soluble in 375 parts of cold and in 220 of hot Water, also in Alcohol; insoluble in Ether. It forms a bluish colour with Iodine, which is destroyed by heat; but it is not reddened by Nitric Acid. The dilute mineral acids impart to this substance a fine light blue colour, which disappears on the further addition of water. It is supposed to be inert.

MECONIN was discovered by Couerbe. It forms white acicular crystals, is a neutral body, and dissolves in 265 parts of cold and in 18 of boiling Water. Very soluble in Ether, Alcohol, and the essential oils.

MECONIC ACID.—In white, crystalline, pearly scales. Soluble in 4

parts of boiling Water, also in cold Water and Alcohol. Persalts of Iron render it blood-red. The salts of Lead, Silver, and Barium give white precipitates, which are soluble in Nitric Acid. Therapeutically, Meconic Acid has of itself little or no action on the system, but combined with Morphia, it forms the natural salt of Opium, and has a more calming effect than any of the artificial salts of Morphia.

OPIANINE, or OPIANIC ACID.—Discovered by Dr. Hinterberger. Occurs in long, colourless, prismatic crystals. Insoluble in Water, and sparingly soluble in boiling Alcohol, from which it entirely separates on cooling. Strong Sulphuric Acid dissolves without changing it; Nitric Acid colours it yellow, and if added to its Sulphuric Acid solution, blood-red. It contains no Nitrogen.

Spurious Opium has from time to time found its way into the market; and some very similar in external appearance to the best opium having been found on analysis to contain very little Morphia, the British Pharmacopœia has very properly given the following test:—

Test.—Take of Opium 100 grains; Slaked Lime, 100 grains; Distilled Water, 4 ounces. Break down the Opium, and steep it in an ounce of the water for twenty-four hours, stirring the mixture frequently. Transfer it to a displacement apparatus and pour on the remainder of the water in successive portions, so as to exhaust the Opium by percolation. To the infusion thus obtained, placed in a flask, add the Lime; boil for ten minutes, place the undissolved matter on a filter, and wash it with an ounce of boiling water. Acidulate the filtered fluid slightly with dilute Hydrochloric Acid; evaporate it to the bulk of half an ounce, and let it cool. Neutralize cautiously with Solution of Ammonia, carefully avoiding an excess; remove by filtration the brown matter which separates, wash it with an ounce of hot water; mix the washings with the filtrate; concentrate the whole to the bulk of half an ounce, and add now Solution of Ammonia in slight excess. After twenty-four hours collect the precipitated Morphia on a weighed filter, wash it with cold water and dry it at 212° F. It ought to weigh at least from 6 to 8 grains, and is pure Morphia.

1 grain of Opium is equal ~~in therapeutical strength~~ to $\frac{1}{12}$ grain of Morphia.

14 of good Smyrna fresh from the chest when dried weigh 12, and the extract from it weighs 7.

Medicinal Properties.

Opium has three main physiological offects:—It diminishes pain (insensibility). It causes sleep. It arrests secretion, excepting that of the skin, which it promotes.

In small doses it excites the vascular and nervous systems, increasing the rapidity and fulness of the pulse; this is followed by sleep, accompanied with perspiration. It is apt to produce nausea, headache, thirst, and constipation. If the dose be large, the sleepiness becomes intense, and there is difficulty in waking the patient. By continued use, it impairs the appetite and digestion. It also acts on the respiratory system, diminishing the frequency of respirations, and thus impairing the oxidization of the blood.

Dose.—Of the powder, $\frac{1}{2}$ to 2 grs. = $\frac{1}{16}$ to $\frac{1}{4}$ Hydrochlorate of Morphia.

Preparations.

EMPLASTRUM.

Opium in very fine powder, 1; Resin Plaster, 9: melt the Resin Plaster by steam or water bath, add the Opium by degrees, and mix thoroughly. =(1 in 10).

Anodyne, to relieve local pain.

(Same as Dub. 1 in 10; Lond. Extract, 1 in 12; Edin. 1 in 31; U.S. Extract, 1 in 16; Belg. 1 in 20; Pr. 1 in 8; not in others.)

ENEMA.

Tincture of Opium, ½ drm.; Mucilage of Starch, 2 oz.: mix for one enema.

(Same as Edin. and Lond.; not in others.)

EXTRACTUM.

Opium in thin slices, 1 lb.; Distilled Water, 6 pints: macerate the Opium in 2 pints of the Water twenty-four hours, and express the liquor; reduce the Opium to a uniform pulp. Macerate it again in 2 pints of the Water for twenty-four hours, and express: mix the liquors. Repeat the operation a third time; mix the liquors; strain through flannel, and evaporate by a water-bath to a proper consistence.

This is less stimulating than powdered Opium, and is preferred as a direct sedative.

100 of good Opium yields 50 of extract.

(In all the Pharmacopœias; Pr. reduced to powder, dose 2 grs.)

Dose.—½ gr. or more.

EXTRACTUM LIQUIDUM.

Extract of Opium, 1: Distilled Water, 17; Rectified Spirit, 3: digest the Extract of Opium in the Water for an hour, stirring frequently; filter, and add the Spirit. The product should measure 20. =(1 in 20).

A new preparation; about one-seventh part stronger than the Tincture.

Dose.—12 to 20 minims.

Produces the effects of Opium, but with less derangement of the nervous system.

The author finds that there is not sufficient Spirit to keep it. When the Spirit is doubled, it keeps without change, and is then of the same strength as the Tincture and Wine of Opium.

LINIMENTUM.

Tincture of Opium, 1; Liniment of Soap, 1: mix. =(1 in 2).

The addition of the Opium to the Soap Liniment renders it more useful in many cases of rheumatism and local pains.

(Same strength as Dub. Edin.; Lond. Tincture of Opium, 1 in 4; not in others.)

PILULA.

Opium in fine powder, 1; Hard Soap, 4; Distilled Water, a sufficiency: reduce the Soap to powder, triturate it with the Opium, and add Water sufficient to make a pill mass. =(1 in 5).

5 grains contain 1 grain of Powder of Opium.

Anodyne and soporific.

(Lond. Dub. and U.S. Pil. Saponis Comp.; Pil. Opii, Edin. 1 in 5; U.S. 5 in 6; Belg. Pil. Comp. 1 in 100; not in others.)

Dose.—3 to 10 grs.

When *small* pills of Opium are desired, 25 grains of powdered Opium with 1 minim of Syrup and 1 minim of water will form a nice pill-mass.

TINCTURA.

Opium in coarse powder, $1\frac{1}{2}$; Proof Spirit, 20: macerate seven days, strain, express, filter, and add spirit to make 20. =(1 in $14\frac{1}{3}$).

$14\frac{1}{3}$ minims = 1 grain Powder of Opium.

A valuable anodyne and soporific, preferred to solid Opium when a more immediate effect is required.

(Same as Lond. Edin. Dub.; U. S. 1 in 12; Belg. with Extract, 1 in 12; Pr. 1 in 10, dose 12 minims; Austr. 1 in 6; not in others.)

Dose.—15 to 30 minims.

TROCHISCI.

Extract of Opium, 72 grs.; Tincture of Tolu, $\frac{1}{2}$ oz.; Refined Sugar in powder, 16 oz.; Gum Arabic in powder, 2 oz.; Extract of Liquorice, 6 oz.; Boiling Distilled Water, a sufficiency.

Each lozenge contains $\frac{1}{10}$ gr. of Extract of Opium.

(Edin.; U. S. Opium with Liquorice; not in others.)

Dose.—One or two lozenges.

VINUM.

Opium in powder, $1\frac{1}{2}$; Sherry, 20: macerate seven days, strain, express, filter, and make up to 20. =(1 in $14\frac{1}{3}$).

Same strength as Tinct. Opii, but preferred to it in eye lotions.

(Same strength as Dub. and Edin; Edin. with aromatics; Lond. and Fr. stronger and with aromatics; U. S. 1 in 8; Belg. 1 in 12; Pr. Tinct. Opii Crocata, dose 10 minims; not in others.)

Dose.—15 to 30 minims.

		Proportions of Opium in the mass.
Page 162.	PILULA PLUMBI CUM OPIO	1 in 8.
83.	PULVIS CRETÆ AROMATICUS CUM OPIO	1 in 40.
126.	PULVIS IPECACUANHÆ CUM OPIO	1 in 10.
129.	PULVIS KINO CUM OPIO	1 in 20.
55.	TINCTURA CAMPHORÆ CUM OPIO	$\frac{1}{4}$ gr. in drm. or 1 in 240.
110.	UNGUENTUM GALLÆ CUM OPIO	1 in $14\frac{2}{3}$.

Not Officinal.

Aqua Opii.—Dried Opium, 1; Water, 12: distil 6.

Employed in eye lotions where spirit is objectionable. Aq. Opii, 1; Aq. Sambuci, 7.

Unguentum Opii.—Soft Extract of Opium, 1; Simple Ointment, 9: mix. =(1 in 10).

Solution of Bimeconate of Morphia.—Same strength and same dose as of Tincture of Opium. This was introduced into medicine by the Author in 1839; possesses in an eminent degree the sedative powers of Morphia. Dr. Roots thus writes of it:—"I have taken it myself daily now very nearly four years, and during that period I have frequently prescribed it in my private practice. The result of my observations on its effects on myself and others amounts to this, namely, that it disturbs the head less, that it distresses the stomach less, and that it constipates the bowels less, than any other preparation of opium. I have taken every other preparation of Opium, but from none of them have I obtained the same degree of quiet rest that I have enjoyed from this Bimeconate of Morphia." For Hypodermic injection, it is evaporated to one-twentieth of its volume.

Liquor Sedativus (Battley) has enjoyed a reputation for a long time as an anodyne

and sedative superior to Tincture of Opium, but it is somewhat stronger, say 50 per cent.; the dose is therefore 10 to 20 minims.

SYDENHAM'S LAUDANUM.—A vinous preparation of Opium (Pr. Tinct. Opii Crocata). 8 minims are equal to 1 grain of Opium.

Dose.—10 to 20 minims.

BLACK DROP.—Originally prepared by John Cook, of Manchester. 1 drop is equal to 4 drops of Tincture of Opium.

Dose.—4 to 8 minims.

JEREMIE'S LAUDANUM.—Prepared by Savory and Moore. The same dose as Battley's.

NEPENTHE.—Prepared by Ferris, of Bristol. Same dose as Tincture of Opium.

TINCTURA THEBAICA.—Extract of Opium, 4; Proof Spirit, 38 by weight: macerate and filter. In doses from 6 to 10 minims.

SYRUPUS CODEIÆ.—Codeia, 6 grs.; Water, ½ oz.; Syrup, 8 oz.: triturate the Codeia with the water, add the Syrup and heat until solution takes place.

Used for cough.

Dose.—1 to 2 teaspoonfuls.

SYRUPUS MORPHIÆ. *Dub.*—Liquoris Morphiæ Hydrochloratis, 1 oz.; Syrupi Simplicis, 17 oz.

Each fluid drachm contains ¼ grain of the Salt.

OXYMEL.—*See* MEL.

Not Officinal.

PANCREATIC JUICE.

Dr. Lucien Corvisart made some careful and elaborate experiments with this substance, and published them in 1857; his conclusions were that Pepsine must be *acid*, and that Pancreatic Juice must be *alkaline*, to digest food. He also showed that the two substances, digested together, destroyed the properties of both.

The Author introduced the Pancreatine in the solid form seven or eight years ago, but failing to find some envelope which would take it through the stomach into the Pancreas, its use was abandoned. If Corvisart's conclusions are correct, it must do harm to the digestive power of the stomach.

PAPAVER.

POPPY CAPSULES.

The nearly ripe capsules of the *Papaver somniferum*, dried and deprived of the seeds; cultivated in Britain.

Medicinal Properties.

Similar to Opium, but weaker and of uncertain strength.

(In all the Pharmacopœias; Fr. Pavot.)

Preparations.

DECOCTUM.

Poppy Capsules, bruised, free from seeds, 1; Distilled Water, 15: boil ten minutes and strain; product should be 8. =(1 in 8).

(Edin. and Dub. same strength, but with seeds; Lond. weaker; Belg. 1 in 20; not in Austr. and Pr.)

An external soothing application, applied warm.

SYRUPUS.

Poppy Capsules, bruised, free from seed, 36 oz.; boiling Distilled Water, 20 pints; Rectified Spirit, 16 oz.; Refined Sugar, 64 oz.: macerate the Poppy Capsules in the water, in a water-bath kept hot, for twelve hours, then evaporate all the water, except that absorbed by the capsules, press strongly and strain; reduce the strained liquor to 3 pints, and when quite cold add the spirit, mix and filter. Distil off the spirit, evaporate the remaining liquor to 2 pints, and then add the sugar; the produce should weigh 104 oz. and measure 78¾ oz., and should have the sp. g. 1·300. (Brit. Pharm. 1·320.) =(1 in nearly 2¼)

(About the same as Lond. and Edin.; Austr. with infusion and weaker; Belg. and Fr. with alcoholic *extract* and simple syrup, 1 in 100; not in others.)

Dose.—1 to 4 drms.; for children, 10 to 20 minims, increasing cautiously in consequence of their susceptibility to the influence of Opium.

In the Edinburgh formula no spirit was ordered. In Lond. the same amount of spirit as in the British, but to be added at the end of the process, and was useless. In the new process it is added to the cooled decoction, and thus coagulates the albuminous matters; the filtered liquor now being made into a syrup with the sugar, will be preserved from fermentation even in hot weather.

Not Officinal.

EXTRACTUM.—The liquid obtained by the process for making the syrup (previous to adding the Sugar), evaporated to the consistence of an extract.

Dose.—2 to 5 grs.

EXTRACTUM LIQUIDUM.—The liquid obtained by the process for making the syrup (previous to adding the Sugar), 3; Rectified Spirit, 1: mix.

Dose.—30 to 60 minims.

PAREIRA.

PAREIRA.

The dried root of the *Cissampelos Pareira*, from Brazil.

A good deal of the stem, which closely resembles the root, is imported, and is said to be much less efficacious. The root itself has frequently filiform rootlets attached to it.

(Lond. Edin. Dub. U. S. Fr.; not in others.)

Medicinal Properties.

Tonic, aperient, and diuretic. In calculous affections, chronic inflammation, and ulceration of the kidneys and bladder: strongly recommended by Sir B. Brodie for its action on the mucous membrane of the bladder.

Dose.—Of the powder, 30 to 60 grs.

Best prescribed with Opium.

Preparations.

DECOCTUM.

Pareira, sliced, 1; Distilled Water, 20: boil fifteen minutes and strain; should measure 13⅓. =(1 in 13⅓).

(Same as Lond.; not in others.)

Dose.—1 to 3 oz. three or four times a day.

EXTRACTUM LIQUIDUM.

Pareira, in coarse powder, 16; boiling Distilled Water, 160, or a sufficiency: Rectified Spirit, 3: macerate in 20 of water twenty-four hours, pack in a percolator, add water till exhausted, evaporate to 13, add the spirit, filter, and make up to 16. =(1 in 1).

A new preparation.

Dose.—1 to 2 drms.

The *solid* extract was in Lond. and Edin., and was sixteen times stronger than the present liquid extract. It was usually ordered with the decoction, to increase its power.

Not Officinal.

PEPSINE DE BOUDAULT.

The gastrice juice obtained from the stomachs of the hog, sheep, or calf, killed fasting; purified, dried, and mixed with dry starch. No. 1 is prepared with Lactic Acid because pepsine acts best when acid is present, but it is also prepared in a neutral state to be administered when there is an excess of acid in the stomach already. There is great diversity in the strength of Pepsine made by different chemists.

Medicinal Properties.—Administered in all cases where there is a deficiency of gastric juice. Largely given in atonic dyspepsia, sickness in pregnancy, etc.

Dose.—15 grs. before each meal, in powder, or suspended in soup or syrup; also in the form of Pepsine Wine, dose a teaspoonful; also Pepsine Lozenges, 2 for a dose.

The *Pepsina Porci* (Bullock) is said to be five times stronger than that made by Boudault, and should be given in doses of 2 to 4 grs., but if not carefully kept is apt to acquire an unpleasant odour.

4 grs. makes a nice pill with 2 minims of Glycerine.

PILULÆ.

PILLS.

This class of medicines, so convenient and portable, was introduced in the earliest Pharmacopœias, and some of them remain unchanged to the present day. We may mention the Pilula Ruffi, which has for at least two hundred years maintained the same proportions, and is now called Pil. Aloes et Myrrhæ. Pills have been rolled in flour, starch, magnesia, liquorice powder, and on the Continent in lycopodium; also, enveloped in silver leaf, and more recently coated with egg-albumen and Ethereal Solution of Tolu for the purpose of preventing them from becoming dry and hard, as well as to shield them from the palate, and so to prevent their being tasted. When pills are intended to pass through the stomach, as in the case of Aloes, so as to act entirely on the lower bowels, they are made up with Alcohol, and varnished with an ethereal solution of Tolu.

The Pills of former Pharmacopœias omitted from the British, are:—Pilula Aloes Composita, Lond. and Dub.; Aloes et Ferri, Edin.; Calomelanos et Opii, Edin.; Conii Composita, Lond.; Cupri Ammoniati, Edin.; Digitalis et Scillæ, Edin.; Ferri Composita, Lond.; Ferri Sulphatis, Edin.; Ipecacuanhæ et Opii, Edin.; Ipecacuanhæ cum Scilla, Lond.; Opii sive Thebaicæ, Edin.; Rhei, Edin.; Rhei et Ferri, Edin.; Styracis Composita, Lond. Edin.

Pilula Aloes is now to be ordered as Pil. Aloes Barbadensis or Pil. Aloes Socotrina; Pil. Aloes cum Sapone, Lond., is replaced by Pil. Aloes Barb., but the ingredients vary in proportions; Pil. Assafœtidæ, Edin. Dub., is now Pil. Assafœtidæ Comp.; Pil. Galbani, Lond., is represented by Pil. Assafœtidæ Comp., with varied proportions; Pil. Hydrargyri Chloridi Comp., Lond. Edin. Dub., now Pil. Calomelanos; Pil. Plumbi Opiata, Edin., now Pil. Plumbi cum Opio; Pil. Saponis Comp., Lond. Dub., replaced by Pil. Opii.

Pilula Ferri Iodidi is a new preparation.

The following are now contained in the British Pharmacopœia, the formulæ for which will be found under the names of the substances from which they are prepared.

Page.		Proportion of active ingredients in the mass.
18.	PILULA ALOES BARBADENSIS	1 in 2.
19.	PILULA ALOES ET ASSAFŒTIDÆ	Aloes 1, Ass. 1 in 4.
19.	PILULA ALOES ET MYRRHÆ	Aloes 1, Myrrh ½ in 3.
19.	PILULA ALOES SOCOTRINÆ	1 in 2.
37.	PILULA ASSAFŒTIDÆ COMPOSITA	Ass. 1, Galb. 1 in 3½.
52.	PILULA CALOMELANOS COMPOSITA	1 in 5.
54.	PILULA CAMBOGIÆ COMPOSITA	about 1 in 6.
78.	PILULA COLOCYNTHIDIS COMPOSITA.	Col. 1, Aloes 2, Scam. 2 in 6.
78.	PILULA COLOCYNTHIDIS ET HYOSCYAMI.	Pil. Col. Co. 2, Ext. Hyos. 1 } in 3.
97.	PILULA FERRI CARBONATIS	1 in 1¼.
100.	PILULA FERRI IODIDI	1 in 3.
117.	PILULA HYDRARGYRI	1 in 3.
157.	PILULA OPII	about 1 in 5.
165.	PILULA PLUMBI CUM OPIO	Pl. Acet. 6, Opium 1 in 8.
181.	PILULA RHEI COMPOSITA	Rh. 1, Aloes ¾ in 4½.
193.	PILULA SCILLÆ COMPOSITA	1 in 5.

N.B.—The dose of all pills should be from 4 or 5 grains to 10 grains, unless otherwise directed.

PIMENTA.

PIMENTO.

The dried unripe berries of the *Eugenia Pimenta*, from the West Indies.

Medicinal Properties.

A warm aromatic stimulant, like Cloves; used as an adjuvant to tonics and purgatives.

Dose.—10 to 30 grs. in powder.

(Lond. Edin. Dub. Belg.; not in others.)

Preparations.

AQUA.

Pimento, bruised, 1; Water, 23 nearly: distil one-half. =(1 in 11½).

(Lond. and Edin. 1 in 20, distil 10; Dub. and Belg. made with essence; not in others.)

Brit. Ph. has 14 oz.—2 galls.; distil 1 gall.

Dose.—1 to 2 oz.

OLEUM.

The Oil distilled in England from Pimento. Sp. g. 1·021.

(Lond. Belg. U. S.; not in others.)

Dose.—1 to 3 minims, on Sugar, in pill, or emulsion.

PIPER.

BLACK PEPPER.

The dried unripe berries of the *Piper nigrum*, chiefly from the West Indies.

Medicinal Properties.

A warm carminative stimulant, producing general arterial excitement. Chiefly used to excite the languid stomach and correct flatulence. Acts on the mucous membrane of the rectum, whence it is useful in hæmorrhoids; also on the membrane of the urethra, similarly to Cubebs. In intermittents, it may be used as an adjuvant to more powerful febrifuges, when the stomach is not acted upon by Quinia, as with drunkards.

Dose.—5 to 20 grs. in powder.

(In all the Pharmacopœias except Pr.; Fr. Poivre Noir.)

Preparation.

CONFECTIO.

Black Pepper, in fine powder, 2; Caraway, in fine powder, 3; Clarified Honey, 15: triturate. =(1 in 10).

(Brit. 1 of Pepper in 10; Lond. and Edin. 1 in 9; Dub. 1 in 8; Lond. with Elecampane; Edin. and Dub. with Liquorice and Fennel; not in others.)

Dose.—60 to 120 grs.

PIX BURGUNDICA.

BURGUNDY PITCH.

A resinous exudation from the stem of the *Abies excelsa*, melted and strained; imported from Switzerland.

(Lond. Edin. and Dub.; Belg. Pix Alba; Fr. Poix Blanche; Pr. Resina Pini Burgundica; not in others.)

It is Abietes Resina (Lond.), Thus (Dub.), which exudes, and when melted and strained is called Burgundy Pitch.

Preparations.

EMPLASTRUM PICIS.

Burgundy Pitch, 26; Common Frankincense (Thus Americanum), 13;

Resin, 4½; Yellow Wax, 4½; Expressed Oil of Nutmegs, 1; Olive Oil, 2; Water, 2: add the Oil and the Water to the other ingredients, previously melted together; stir, and evaporate to a proper consistence.

Applied to the chest in chronic pulmonary complaints, to the loins in lumbago, to the joints in chronic articular affections, and to other parts to relieve local pains of a rheumatic character. It acts as a counter-irritant.

(Same as Lond.; Edin. contains 50 per cent. more Pitch; U.S. Wax 1, Pitch 12; Belg. Oil 1, Wax 3, Pitch 16; Fr. Wax 1, Pitch 3; not in others.)

PIX LIQUIDA.

TAR.

A bituminous liquid obtained from the wood of *Pinus sylvestris* and other Pines by destructive distillation.

Medicinal Properties.

Similar to Turpentine. May be used internally in chronic catarrhal affections, and complaints of the urinary passages; also for some chronic skin diseases. Inhaled, the vapour is useful in chronic bronchitis. Also as an external application in cases of lepra, etc.

(In all the Pharmacopœias; Fr. Goudron.)

Dose.—20 to 60 minims, in pills with flour.

Not Officinal.

AQUA (TAR WATER).—Stir a pint of Tar with half a gallon of Water for fifteen minutes, and decant.

Dose.—From 1 to 2 pints daily, or may be used as a wash.

PILULÆ PICIS.—Tar 2, Liquorice Powder 1; made into five-grain pills.

Dose.—2 or 3 pills thrice daily (Dr. Seymour).

They are sometimes made of Black Pitch.

For hæmorrhoids.

TAR CAPSULES.

Dose.—2 capsules, three or four times a day, as a stimulant and diuretic.

UNGUENTUM.—Tar and Suet in equal parts: melt together and stir till cold. Applied in cases of psoriasis, lepra, and scald-head.

Not Officinal.

PLASMA.

Rub 2 of Starch with 1 of Water, and add 10 of Glycerine, then apply heat until it thickens.

Once proposed as a substitute for Lard in ointments. Happily it has not been ntroduced into the British Pharmacopœia, for it will not blend with ointments made with lard, and if that fact is not constantly borne in mind by prescribers, both would be ordered in the same compound, to the annoyance of both dispenser and patient.

PLUMBUM.

LEAD.

Pb; eq. 103·5.

Lead occurs in nature as an oxide, and as a sulphuret called *galena*, also in saline combination, forming the native sulphate, phosphate, carbonate, chromate, molybdate, tungstate, and arseniate of lead. The native oxide is rare, but galena, the ore from which nearly *all* the lead of commerce is extracted, is exceedingly abundant.

PLUMBI ACETAS.

ACETATE OF LEAD.

Syn. SUGAR OF LEAD.

$PbO,C_4H_3O_3 + 3HO$; eq. 189·5.

In white masses of interlaced acicular crystals, slightly efflorescent, having an acetous odour, and a sweet astringent taste.

Solubility: in Water, 10 in 25.

Litharge, in fine powder, 24; Acetic Acid, 40; Distilled Water, 20: mix the Acetic Acid and the Litharge, and dissolve with the aid of gentle heat; filter, evaporate till a pellicle forms, and set aside to crystallize, adding a little Acetic Acid should the fluid not have a distinct acid reaction; drain and dry the crystals on filtering-paper, without heat.

Test.—Its solution in Distilled Water is clear, or is only slightly turbid, and becomes clear on the addition of Acetic Acid. 38 grains dissolved in water, require for complete precipitation 20 minims of the volumetric solution of Oxalic Acid.

Medicinal Properties.

In small doses, it is sedative and astringent, lessening morbid mucous discharges and hæmorrhages, and even diminishing natural secretions; whence it is useful in chronic diarrhœa and dysentery. Used in phthisis to check expectoration; in bronchitis to abate profuse secretion. Its use requires caution. It is often followed with a small dose of Acetic Acid, under the idea that excess of Acid makes it less injurious to the system. Externally, it is sedative, desiccant, and astringent, diminishing profuse discharges of ulcers; also for injection in gonorrhœa.

(In all the Pharmacopœias; same as Lond. Edin. Dub. and U. S.; Austr. and Pr. Plumbum Aceticum Crudum; Belg. Acetas Plumbi Depuratus; Fr. Acétate de Plomb.)

Dose.—1 or 2 to 8 or 10 grs. in pill.

Preparation.

PILULA PLUMBI CUM OPIO.

Acetate of Lead, in fine powder, 6; Opium, in fine powder, 1; Confection of Roses, 1: mix.

(Same as Edin.; not in others.)

(A four-grain pill contains 3 grs. of Plumbi Acet. and ½ gr. Pulvis Opii.)

Dose.—1 four-grain pill every three or four hours for hæmorrhage.

Not Officinal.

LOTIO PLUMBI ACETATIS.—2 grains to an ounce (Ophthalmic Hospital).

PLUMBI CARBONAS.

CARBONATE OF LEAD.

$2(PbO,CO_2) + HO,PbO$; eq. 387·5.

A soft, heavy, white powder.

Solubility: insoluble in Water; soluble, with effervescence, in diluted Nitric Acid.

Test.—Dissolves in Acetic Acid without leaving any residue, and the solution, when treated with excess of Sulphuretted Hydrogen, boiled and filtered (all the Sulphuret of Lead separated), gives no precipitate with Oxalate of Ammonia—indicating absence of Lime.

Medicinal Properties.

Employed externally as an astringent and sedative, or as an ointment for ulcers and inflamed and excoriated surfaces.

(Same as Edin. Dub. and U.S.; Austr. Plumbum Carbonicum; Belg. Carbonas Plumbi Venale; Cerussa; Pr. Plumbum Hydrico-carbonicum; not in others.)

Preparation.

UNGUENTUM.

Carbonate of Lead, in fine powder, 1; Simple Ointment, 7: mix thoroughly. =(1 in 8).

(Edin. 1 in 6; Belg. 1 in 6½; Dub. 1 in 6; U.S. 1 in 7; Pr. 1 in 3; not in others.)

PLUMBI SUBACETATIS LIQUOR.

SOLUTION OF SUBACETATE OF LEAD.

Syn. LIQUOR PLUMBI DIACETATIS.

Subacetate of Lead, $2\,PbO,C_4H_3O_3$; eq. 274; dissolved in water.

A dense, clear, colourless liquid, with alkaline reaction and sweet astringent taste.

Acetate of Lead, 5; Litharge, in powder, 3½; Distilled Water, 20: boil half an hour, constantly stirring; filter, and make up 20.

Test.—Sp. g. 1·260. 2 drachms require for perfect precipitation 27 measures of the volumetric solution of Oxalic Acid.

Medicinal Properties.

When largely diluted, it is used externally as an astringent and sedative, for inflammation arising from sprains, bruises, etc.; applied by means of cloths kept wet. As an astringent gargle ($\frac{1}{2}$ drm. to 6 oz. Rose Water).

(In all the Pharmacopœias; same as Lond. Edin. and U. S.; rather stronger than Dub.; Lond. Liquor Plumbi Diacet.; Edin. Plumbi Diacetatis Solutio; Austr. Plumbum Acetum Solutum; Belg. Subacetas Plumbi Liquidus; Fr. Sous-Acétat de Plomb Liquide; Pr. Plumbum Hydrico-Aceticum Solutum.)

Preparations.

LIQUOR DILUTUS.

Solution of Subacetate of Lead, 1; Rectified Spirit, 1; Distilled Water, 78: mix and filter. =(1 in 80).

(Same as Dub.; Lond. 1 in 112; U. S. 1 in 42; Austr. 1 in 27; not in others.)

UNGUENTUM.

Solution of Subacetate of Lead, 6; Camphor, $\frac{1}{7}$; White Wax, 8; Olive Oil, 20: melt the Wax with 16 of the Oil, on a steam- or water-bath; remove the vessel, and, as soon as the mixture begins to thicken, gradually add the Solution of Subacetate of Lead, and stir the mixture constantly until it cools; then add the Camphor, dissolved in the rest of the Oil, and mix thoroughly.

(The same as Ceratum Plumbi Compositum, Lond., excepting that White Wax is now used instead of Yellow. Similar to Ung. Plumbi, Pr.; Belg. Unguent. Subacetatis Plumbi; Pr. Unguentum Plumbi 1 in 10; not in others.) =(1 in $5\frac{3}{4}$).

Not Officinal.

CREMOR LITHARGYRI (Dr. Kirkland).—Solution of Diacetate of Lead, 1; Cream, 8: mix.

GARGARISMA PLUMBI.—Solution of Diacetate of Lead, 1; Barley Water, 30: mix.

LOTIO PLUMBI DIACETATIS.—From 3 minims to 7 minims to an ounce of water.

PODOPHYLLUM.

PODOPHYLLUM.

The root of the *Podophyllum* dried; imported from North America.

Medicinal Properties.

An active and certain cathartic. Applicable to cases where brisk purging is required; combined generally with Henbane. Used in the place of Calomel as a cholagogue.

Dose.—10 to 20 grs. in powder, but rarely used in England, the resin being generally meant, when prescribed.

Preparation.

RESINA.—*See* PODOPHYLLIN.

Podophyllum, in coarse powder, 1; Rectified Spirit, $3\frac{3}{4}$, or a sufficiency; Distilled Water and Hydrochloric Acid, of each a sufficiency: exhaust the Podophyllum by percolation with the spirit; distil over the spirit; slowly pour the liquid remaining after the distillation of the tincture into three times

its volume or water acidulated with one-twenty-fourth part of its weight of Hydrochloric Acid, constantly stirring; let it stand twenty-four hours; collect the resin which falls, wash on a filter with distilled water, and dry in a stove.

Solubility: totally in Rectified Spirit and Ammonia, and almost entirely in pure Ether.

Cholagogue, purgative; used as a substitute for Calomel.

Given in pills with Soap and Hyoscyamus, Rhubarb or Aloes.

A new preparation.

(In U. S.; not in other Pharmacopœias.)

Dose.—¼ to ½ or even 2 grains.

POTASSIUM.

POTASSIUM.

K; eq. 39.

Potassium was discovered by Sir Humphry Davy in 1807. It is a soft metal (sp. g. 0·865), cutting like wax, of a silver-white colour, but tarnishes the instant it is cut, and assumes a leaden colour. It has so great an affinity for Oxygen, that when thrown on water it combines with sufficient heat to set the Hydrogen on fire, and a Solution of Potash is the result.

Of the preparations of Potassium only the Bromide and the Iodide are admitted into the British Pharmacopœia.

POTASSII BROMIDUM.

BROMIDE OF POTASSIUM.

KBr; eq. 119.

In white, transparent, cubical crystals, odourless, of a pungent saline taste.

Solubility: in Water, 1 in 2.

Test.—10 grains require for complete decomposition 84 measures of the volumetric solution of Nitrate of Silver. A solution of this salt, mixed with the mucilage of Starch, and a drop of aqueous solution of Bromine, does not exhibit any blue colour—indicating absence of Iodide.

Medicinal Properties.

Introduced by Dr. Robert Williams, for chronic enlargements of the liver. It is employed in enlargement of the spleen, and in bronchocele and scrofula. It exerts a powerful influence on the generative organs, lowering their functions in a marked degree. This salt, as well as the Bromide of Ammonium, is used to produce anæsthesia of the larynx. Of the Bromide of Ammonium Dr. Ramskill says, that in doses of 5 to 15 grains it is a most excellent nervine, good in hysterics; especially useful for sleeplessness of nervous per-

sons, where there is no organic disease; and in epilepsy when the Bromide of Potassium fails.

(In U.S.; not in others.)

Dose.—5 to 15 grs.

POTASSII IODIDUM.

IODIDE OF POTASSIUM.

KI; eq. 166.

In colourless, generally opaque, cubical crystals.

Solubility: in Water, 4 in 3; Spirit, 1 in 6.

Test.—The addition of Tartaric Acid and Mucilage of Starch to its watery solution does not develope a blue colour—indicating absence of Iodate. Solution of Nitrate of Silver added in excess forms a yellow-white precipitate (Iodide of Silver), which, when agitated with Ammonia, yields by subsidence a clear liquid, in which excess of Nitric Acid causes no turbidity—indicating absence of Chlorine. Its aqueous solution is only faintly precipitated by the addition of Lime—indicating absence of Carbonates.

Medicinal Properties.

It is given in those cases where Iodine is indicated, but being less irritant, is almost universally preferred for internal administration.

(In all the Pharmacopœias.)

Dose.—1 to 10 grs.

Iodide of Potassium should not be prescribed with Sweet Spirits of Nitre, Decoction of Liquorice, or any other vegetable preparation containing Starch; nor with any acid preparations. It is sometimes prescribed with Tincture of Bark, an ounce of which dissolves half a drachm.

Preparations.

LINIMENTUM IODI.—*See* IODUM.

TINCTURA IODI.—*See* IODUM.

UNGUENTUM.

Iodide of Potassium, 64 grs.; Distilled Water, 1 drm.; Prepared Lard, 1 oz.: dissolve the Iodide in the Water, and mix thoroughly with the Lard. =(1 in 8½).

(Same as Lond. Dub. Belg. U.S.; Pr. 1 in 10; not in Edin. or Fr.)

POTASSA CAUSTICA.

CAUSTIC POTASH.

Hydrate of Potash, KO,HO; eq. 56.

In hard white pencils, very deliquescent, powerfully alkaline and corrosive.

Solubility: in Water, 2 in 1.

Test.—56 grains dissolved in Water leave only a trace of sediment, and require for neutralization at least 90 measures of the volumetric solution of Oxalic Acid.

Medicinal Properties.

A powerful escharotic. Chiefly employed for making caustic issues. Has been much used for the destruction of tumours and the surface of malignant ulcers.

(In all the Pharmacopœias; Lond. Potassæ Hydras; Edin. Potassa.)

Preparation.

LIQUOR POTASSÆ. SOLUTION OF POTASH.

Carbonate of Potash, 2; Slaked Lime, 1½; Distilled Water, 20: dissolve the Carbonate of Potash in the water, and having heated the solution to the boiling-point in a clear iron vessel, gradually mix with it the Slaked Lime, and continue the ebullition for ten minutes with constant stirring; decant the clear liquid.

Sp. g.: British, 1·058; Lond. 1·063; Edin. 1·072; Dub. 1·068; U. S 1·065, containing 5·8 per cent. of Hydrate of Potash.

(Austr. Belg. 1·330; Pr. 1·335, containing 28 per cent. of Potash; not in Fr.)

Test.—1 fluid ounce requires for neutralization 48·25 measures of the volumetric solution of Oxalic Acid. It does not effervesce when added to an excess of dilute Hydrochloric Acid, nor give a precipitate with Lime or Oxalate of Ammonia—indicating absence of Carbonic Acid and Lime. When it is treated with an excess of dilute Nitric Acid and evaporated to dryness, the residue forms, with water, a nearly clear solution, which is only slightly precipitated with Chloride of Barium (indicating a trace of sulphates), and Nitrate of Silver (indicating a trace of chlorides), and is rendered very slightly turbid by Ammonia—indicating a trace of Alumina.

1 fluid drachm contains 4 grains of anhydrous Potassa, and has about the same saturating power as Liquor Sodæ.

Medicinal Properties.

Antacid, diuretic, and antilithic. As an antacid in dyspepsia. Useful in many skin diseases dependent upon a morbid condition of the stomach; given as an alterative in inflammation of the serous membrane attended with fibrinous depositions, as in pleuritis, pericarditis, and periostitis; also in scrofula, syphilis, and chronic rheumatism. Externally, as a wash in chronic skin-diseases, as a stimulant lotion, and as an escharotic against the bite of rabid or venomous animals.

During a course of this the urine does not become alkaline, which is the case when Carbonate of Potash is taken.

Dose.—½ to 2 drms. three times a day in Beer, Milk, or Mistura Amygdalæ.

Not Officinal.

POTASSA CUM CALCE (Vienna Paste).—Caustic Potash, 5 drms.; Slaked Lime, 6 drms.; Rectified Spirit, sufficient to make a mass. The paste is spread on the part to be

cauterized, and is allowed to remain for ten or fifteen minutes, while the surrounding skin is protected by adhesive plaster.

Potassa cum Calce in cylinders of three different sizes, consisting of 2 parts of Potassa and 1 of Lime, are a suitable form for the use of obstetricians.

POTASSA SULPHURATA.

SULPHURATED POTASH.

Tersulphuret of Potassium, KS_3, with Sulphate of Potash.

Solid greenish masses, liver-brown when recently broken, alkaline and acrid to the taste.

Test.—About three-fourths of its weight are dissolved by Rectified Spirit.

Medicinal Properties.

Irritant, narcotic, and antiseptic. A good remedy, both internally and externally, for scabies; used also for other chronic eruptions, especially lepra and psoriasis.

(In all the Pharmacopœias; Lond. and Edin. Potassii Sulphuretum; Dub. and U. S. Hepar Sulphuris; Pr. Kalium Sulphuratum.)

Dose.—3 to 8 grs.

Not Officinal.

BALNEUM SULPHURETUM.—Sulphurated Potash, 4 oz.; Water, 30 gall.: dissolve.

This is not quite so agreeable as the Barèges waters, which may be made artificially as follows:—Sulphuret of Sodium, Subcarbonate of Soda, and Muriate of Soda, of each 20 grains to one gallon. But a much stronger solution is often used.

POTASSÆ ACETAS.

ACETATE OF POTASH.

$KO,C_4H_3O_3$; eq. 98.

White, foliaceous, satiny masses, very deliquescent.

Solubility: in Water, 100 in 35; in Proof Spirit, 1 in 2.

Test.—Neutral to test paper. Entirely soluble in Rectified Spirit. Its solution is unaffected by Hydrosulphuret of Ammonia.

Medicinal Properties.

Diuretic and purgative. Advantageously used as a purgative diuretic in dropsy. It has been used with great success in acute rheumatism.

Best administered in simple solution, with a little Sugar if desired.

(In all the Pharmacopœias except Austr., which contains a solution, sp. g. 1·200.)

Dose.—10 to 20 grs. as a diuretic; 2 to 3 drms. as a laxative.

POTASSÆ BICARBONAS.

BICARBONATE OF POTASH.

Syn. POTASSÆ CARBONAS.

$KO,HO,2CO_2$; eq. 100.

In colourless, right rhombic prisms, not deliquescent, of a saline, feebly alkaline taste.

Solubility: in Water, 1 in 3. Insoluble in Rectified Spirit.

Test.—50 grains exposed to a low red-heat, leave 34½ grains of a white residue (Carbonate of Potash), which requires for exact saturation 50 measures of the volumetric solution of Oxalic Acid.

15 grains of Citric Acid neutralize 20 of this salt.

Medicinal Properties.

Antacid, antilithic, and diuretic. A powerful alterative, from its rendering the blood and urine strongly alkaline. Used in dyspepsia as an antacid, and in urinary affections where there is a deposition of Uric Acid. Highly useful in acute rheumatism in large and frequent doses.

Closely resembles the carbonate. but without its irritant qualities.

Administered in aërated water or plain bitter infusion.

(Same as Lond. Edin. Dub. U. S. Pr. Kali Bicarbonicum, purum, and Fr.; not in others.)

Dose.—10 to 20 grs. as an antacid or antilithic; 1 to 2 drms. as a diuretic. In acute rheumatism, 30 to 40 grs. every four hours, freely diluted.

POTASSÆ CARBONAS.

CARBONATE OF POTASH.

Carbonate of Potash, KO,CO_2+2HO; eq. 87.

A white crystalline powder, alkaline and caustic, very deliquescent.

Solubility: in Water, 100 in 75. Insoluble in Spirit.

Test.—Loses about 21 per cent. of its weight when exposed to a red-heat. When supersaturated with Nitric Acid and evaporated to dryness, the residue is almost entirely soluble in Water, only a little Silica remaining undissolved. It is precipitated only faintly by Chloride of Barium and Nitrate of Silver. 87 grains require for neutralization at least 98 measures of the volumetric solution of Oxalic Acid.

Medicinal Properties.

Antacid, antilithic, and diuretic. It is less corrosive than Caustic Potash. Like the bicarbonate, it is diuretic, but inferior to the other salts of Potash, —the nitrate, acetate, and bitartrate. As an antilithic it is preferable to the bicarbonate, and if the tendency to lithic discharge be great, about 35 grains, in divided doses, may be given daily. Sometimes a solution is used as an antilithic injection.

(In all the Pharmacopœias; Pr. Kali Carbonicum depuratum.)

Dose.—5 to 12 grs.

POTASSÆ CHLORAS.

CHLORATE OF POTASH.

KO,ClO_5; eq. 122·5.

In colourless, rhomboidal, crystalline plates, with a cool saline taste.

Solubility: in cold Water, 1 in 12; in boiling Water, 1 in 2.

Test.—Its solution is not affected by Nitrate of Silver or Oxalate of Ammonia. Indicating absence of Chloride and Lime.

Medicinal Properties.

Stimulant and diuretic, and appears to undergo no change in passing to the kidneys. The mode of action is very doubtful. Its effects are best proved in inflammatory affections of the mouth. Useful when the powers of the system require to be roused, as in the low stage of typhus fever, and particularly, for the same purpose, in smallpox and scarlatina. A solution may be applied to mouth sores.

(In all the Pharmacopœias; except Edin.)

Dose.—10 to 20 grs. in water three or four times daily.

Not Officinal.

GARGARISMA.—Chlorate of Potash, 1 drm.; Honey, ½ oz.: water to 8 oz.

POTASSÆ CITRAS.

CITRATE OF POTASH.

$3KO,C_{12}H_5O_{11}$; eq. 306.

A white powder, of saline, feebly acid taste, and deliquescent.

Solubility: in Water, 10 in 6. Insoluble in Proof Spirit.

Test.—102 grains heated to redness till gas ceases to be evolved, leaves an alkaline residue (Carbonate), which requires for exact saturation 100 measures of the volumetric solution of Oxalic Acid.

Medicinal Properties.

A refrigerant diaphoretic and mild alkaline laxative. Useful in gout and rheumatism. It is a valuable saline febrifuge, increasing the secretion of the kidneys, and is thus eliminated in the urine, rendering it neutral or alkaline. Given in cases of uric acid gravel; also as a drink in scurvy.

(In U. S.; not in others.)

Dose.—20 to 60 grs. in water.

POTASSÆ NITRAS.

NITRATE OF POTASH.

KO,NO_5; eq. 101.

In white opaque masses or fragments of opaque, striated, six-sided prisms, colourless, of a peculiar cool saline taste.

Solubility: in cold water, 1 in 4; in boiling water, 1 in 2½.

Test.—Its solution is not affected by Chloride of Barium or Nitrate of Silver.

Medicinal Properties.

Refrigerant, diuretic, and diaphoretic. Reduces the pulse, and is peculiarly depressing. Much used in acute inflammatory diseases. With Tartar Emetic and Calomel it promotes the secretions of the liver and skin, and lessens febrile excitement. Useful as a gargle in inflammatory sore-throat.

(In all the Pharmacopœias; Pr. Kali Nitricum.)

Dose.—5 to 20 grs. as a refrigerant and diuretic; 20 to 30 grs. as a vascular sedative.

Not Officinal.

FUMIGATIO.—Soak porous paper in a solution of Nitre, dry it, roll it up, and burn in a candlestick. Used in asthma.

GARGARISMA.—Nitre, ¼ oz.; Oxymel, 1 oz.; Barley Water, 7 oz.

POTASSÆ PERMANGANAS.

PERMANGANATE OF POTASH.

KO,Mn_2O_7; eq. 158.

In dark purple, slender, prismatic crystals, inodorous, with a sweet astringent taste.

Solubility: in Water, 1 in 16.

Test.—Entirely soluble in cold Water. 5 grains dissolved in Water require, for complete decoloration, a solution of 44 grains of granulated Sulphate of Iron acidulated with 2 drachms of dilute Sulphuric Acid.

Medicinal Properties.

A powerful antiseptic. Used also in diabetes. Externally, as a caustic and deodorizer, to foul ulcers and cancers. Corrects offensive evacuations.

Dose.—3 or 4 grs. three times daily in water, gradually increasing.

(In U. S.; not in others.)

Preparation.

LIQUOR POTASSÆ PERMANGANATIS.

Permanganate of Potash, 4 grs.; Distilled Water, 1 oz.: dissolve.
=(1 in 120).

A new preparation; half the strength of Condy's Fluid. Ought never to be put in corked bottles, as it soon becomes decomposed when in contact with any organic substance, animal or vegetable.

Diluted with 40 parts water, it is useful as a gargle or as a cleaning wash for diseased surfaces.

POTASSÆ SULPHAS.

SULPHATE OF POTASH.

KO,SO_3; eq. 87.

In colourless, hard, six-sided prisms, terminating by six-sided pyramids.

Solubility: in cold Water, 1 in 10; boiling Water, 1 in 4. Insoluble in Rectified Spirit.

Test.—Neutral to test paper. Its solution is not affected by Oxalate of Ammonia. Indicating absence of Lime.

Medicinal Properties.

Mildly cathartic, usually operating without irritation. Generally given in combination with Rhubarb. A useful purgative in jaundice and dyspeptic affections.

(In all the Pharmacopœias; Pr. Kali Sulphuricum.)

Dose.—10 to 20 grs. as an alterative; 1 to 2 drms. as a purgative.

Sulphate of Potash was long known as Sal Polychrestum, and the Bisulphate (the residue from making Nitric Acid) is called Sal Enixum.

Not Officinal.

POTASSÆ SULPHIS.—Solubility in water, 1 in 3. Dose: 10 grs. in Pyemia.

POTASSÆ TARTRAS.

TARTRATE OF POTASH.

$2\,KO,C_8H_4O_{10}$; eq. 226.

In small, colourless, four- or six-sided prisms.

Solubility: in Water, 10 in 8. Insoluble in Rectified Spirit.

Test.—Entirely dissolved by its own weight of Water. 113 grains heated to redness till gases cease to be evolved, leave an alkaline residue (Carbonate), which requires for exact saturation 100 measures of the volumetric solution of Oxalic Acid.

Medicinal Properties.

A mild, cooling purgative, operating, like most of the neutral salts, with-

out much pain, and producing watery stools. In smaller doses, diuretic and alterative.

(In all the Pharmacopœias; Lond. Edin. Dub. and U.S. Potassæ Bitartras; Austr. Kali Tartaricum Acidum Depuratum; Belg. Bitartras Potassæ Depuratum; Fr. Tartrate Neutre de Potasse; Pr. Kali Tartaricum.)

Dose.—As a diurectic and alterative, 20 to 60 grs.; as a purgative, 120 to 200 grs.

POTASSÆ TARTRAS ACIDA.

ACID TARTRATE OF POTASH.

Syn. POTASSÆ BITARTRAS; CREAM OF TARTAR.

$HO,KO,C_8H_4O_{10}$; eq. 188.

A finely gritty white powder, or fragments of cakes crystallized on one surface, of a pleasant acid taste.

Solubility: in cold Water, 1 in 200; in boiling Water, 1 in 18. Insoluble in Rectified Spirit.

Test.—188 grains heated to redness till gas ceases to be evolved, leave an alkaline residue (Carbonate), which requires for exact saturation 100 measures of the volumetric solution of Oxalic Acid.

Medicinal Properties.

Cathartic, diuretic, and refrigerant. Much used in febrile and dropsical affections.

Dose.—As a refrigerant or diuretic, 20 to 60 grs.; as an aperient, 60 to 120 grs.; as a hydragogue cathartic, ½ to 1 oz.

(In all the Pharmacopœias, except Fr. Pr. Kali Bitartaricum Purum.)

Contained in Confectio Sulphuris, Pulvis Jalapæ Compositus.

Not Officinal.

POTASSÆ BORO-TARTRAS (Fr.), Soluble Cream of Tartar.—Acid Tartrate of Potash, 4; Boracic Acid, 1; Water, 32: evaporate in a water bath, and afterwards dry in a stove.

PRUNUM.

PRUNE.

The dried drupe of the *Prunus domestica*, from plants cultivated in Southern Europe.

Medicinal Properties.

Nutritious and refrigerant. Rarely prescribed, though often used in domestic medicine as a laxative.

(In all the Pharmacopœias except Pr.)

Contained in Confectio Sennæ.

PTEROCARPUS.

RED SANDAL-WOOD.

The wood of the *Pterocarpus santalinus*, from Coromandel and Ceylon.

Used solely as a colouring agent.

(In all the Pharmacopœias except U. S. Pr. and Fr.)

Contained in Tinctura Lavandulæ Comp.

The Essential Oil has lately been prescribed for Gonorrhœa. Dose: 30 minims three times a day rubbed down with ʒj Mucilage, adding ʒj Syrup and ʒss Tincture of Orange.

PULVERES.

POWDERS.

The following Powders, included in previous Pharmacopœias, are omitted from the British:—Pulvis Aloes Compositus, Lond.; Aluminis Compositus, Edin.; Antimonii Compositus, Lond. Edin. Dub.; Cinnamomi Compositus, Lond. Edin. Dub.; Cretæ Compositus, Lond. Edin. Dub.; Cretæ Compositus cum Opio, Lond. Edin. Dub.; Salinus Compositus, Edin.; Pulveres Effervescentes, Edin. Dub.

The following Powders are newly introduced into the Pharmacopœia:—Pulvis Amygdalæ Comp. (formerly Confectio Amygdalæ), Antimonialis (formerly P. Antimonii Comp.), Aromaticus (same as Conf. Aromatica, without Chalk), Cretæ Aromatica (formerly Confectio Aromatica).

The following Powders are contained in the British Pharmacopœia, the formulæ of which will be found under the names of the substances from which they are prepared:—

		Proportions of active ingredients to the whole.
Page 26.	PULVIS AMYGDALÆ COMPOSITUS	8 in 13.
29.	PULVIS ANTIMONIALIS	1 in 3.
74.	PULVIS AROMATICUS.	
64.	PULVIS CATECHU COMPOSITUS	1 in 2½.
83.	PULVIS CRETÆ AROMATICUS	1 in 4.
83.	PULVIS CRETÆ AROMATICUS CUM OPIO	1 in 40.
126.	PULVIS IPECACUANHÆ CUM OPIO	1 in 10.
128.	PULVIS JALAPÆ COMPOSITUS	1 in 3.
129.	PULVIS KINO CUM OPIO	Opium 1 in 20.
181.	PULVIS RHEI COMPOSITUS	1 in 4½.
192.	PULVIS SCAMMONII COMPOSITUS	1 in 2.
219.	PULVIS TRAGACANTHÆ COMPOSITUS.	

QUASSIA.

QUASSIA.

The wood of the *Picræna excelsa*, from Jamaica.

Medicinal Properties.

Possesses in a high degree the properties of the simple bitters, without astringency. Tonic. Particularly adapted to dyspepsia and in the debility which succeeds acute disease, also as a tonic in intermittents. A good vehicle for Iron Preparations.

(In all the Pharmacopœias.)

Preparations.

EXTRACTUM.

Quassia, in moderately fine powder, 1 lb.; Distilled Water, a sufficiency: macerate the Quassia in 8 oz. of water for two hours, pack in a percolator, add water till the Quassia is exhausted, evaporate, filter before it becomes thick, again evaporate to a proper consistence by a water-bath.

18 ounces of wood yield 1 ounce of extract.

(In all the Pharmacopœias, except Lond. and Dub.)

Dose.—3 to 5 grs.

INFUSUM.

Quassia, in chips, 60 grs.; cold Distilled Water, 10 oz.: infuse half an hour and strain. =(1 in 80).

(Lond. 1 in 210; Edin. 1 in 160: Dub. 1 in 68; U. S. 1 in 64; Fr. 1 in 125; not in Austr. Belg. and Pr.)

It thus appears that the Infusion of the British Pharmacopœia is above three times the strength of Lond., more than twice that of Edin., and about the same strength as that of Dub. and U. S.

Dose.—1 to 2 oz.

Not Officinal.

TINCTURA QUASSIÆ (Edin.).—Quassia in chips, 1; Proof Spirit, 36: digest seven days, filter, and make up 36. =(1 in 36)

(U. S. 1 in 15.)

Dose.—1 to 2 drms.

QUERCUS.

OAK BARK.

The dried bark of the small branches and young stems of the *Quercus pedunculata*, collected in spring from plants growing in Britain.

Medicinal Properties.

A valuable astringent, whether administered internally or applied externally. May be used, either generally or topically, in all cases requiring astringents.

(Lond. Edin. Dub. U. S. and Belg.; not in others.)

Dose.—Of the powder, 30 to 120 grs.

Preparation.

DECOCTUM.

Oak Bark, bruised, 1; Distilled Water, 20: boil ten minutes in a covered vessel and strain. =(1 in 20).

(Same as Dub. Belg. and U. S.; Lond. and Edin. five-eighths the strength; not in others.)

Dose.—1 to 2 oz. two or three times daily.

QUINIÆ SULPHAS.

SULPHATE OF QUINIA.

The sulphate of an alkaloid, $C_{40}H_{24}N_2O_4, HO, SO_3 + 7HO$, prepared from Yellow Cinchona Bark and from the bark of *Cinchona lancifolia;* eq. 436.

100 parts consist of 75 Quinia, 9 Sulphuric Acid, and 16 water.

Yellow Cinchona Bark, in coarse powder, 16; Hydrochloric Acid, 3; Distilled Water, a sufficiency; Solution of Soda, 80; dilute Sulphuric Acid, a sufficiency. Proceed as directed in the Pharmacopœia.

Solubility: in Water, 1 in 1000.

Test.—Dissolves in pure Sulphuric Acid with a feeble yellowish tint, and undergoes no further change of colour when gently warmed. 10 grains, with 10 minims of diluted Sulphuric Acid and half a fluid ounce of Water, form a perfect solution, from which Ammonia throws down a white precipitate. This redissolves on agitating the whole with half a fluid ounce of pure Ether, without the production of any crystalline matter floating on the lower of the two strata into which the agitated fluid separates on rest—indicating absence of Quinidia and Cinchonia. The upper stratum of fluid, if entirely removed by a pipette and evaporated, leaves a white residue, which, when dried in the air without heat, weighs 8·6 grains, and is pure Quinia.

Sulphate of Quinia is prepared with profit only on a large scale. The test given for its purity is a sufficient safeguard to the purchaser.

12 grains possess the power of 1 ounce of good bark.

Medicinal Properties.

Sulphate of Quinia may be substituted in all cases where Cinchona is applicable, and in the treatment of intermittent fevers has almost superseded the bark. Useful in many chronic diseases in which intermissions do not occur, as in chronic and pulmonary catarrh kept up by weakened habit, chronic diarrhœa, scrofulous condition of the system, and every case of direct debility. Useful in neuralgia.

When a large dose (say 10 grains) is given, it is best suspended in water; the bitterness is not then so intense as when in solution; prescribed in pill, syrup, confection or Glycerine is best. When in mixture, Tincture of Orange and sometimes Spirit of Ether is added to prevent its causing headache. The Infusion of Roses of the Pharmacopœia is a favourite vehicle, but it is always turbid and unsightly; in the Infusion of Roses with Nitric Acid (*vide* Rosa Gallica) it is bright and attractive in appearance. But if Sulphuric Acid, or even Sulphate of Magnesia, is prescribed with Quinine in this Infusion, it becomes at once turbid.

(In all the Pharmacopœias; Lond. Quinæ Disulphas; Pr. Chinium Sulphuricum.)

Dose.—1 to 5 grs. three times daily as a tonic, or in larger doses as an antiperiodic.

Preparation.

TINCTURA QUINIÆ COMPOSITA.

Sulphate of Quinia, 1; Tincture of Orange Peel, 60: digest seven days, and strain. =(1 in 60).

Dose.—1 to 1½ drm.

NOTE.—Some chemists, I am told, add 1 minim of diluted Sulphuric Acid to each f℥j of Tincture in order to dissolve all the Quinia; this is a mistake, for as the Tinct. of Orange will dissolve $\frac{29}{40}$ths of the Quinia, it is not needed, nor will it diminish the precipitation of the Tannate of Quinia.

Not Officinal.

LIQUOR QUINIÆ AMMONIATA.—Disulphate of Quinia, 1; Compound Spirit of Ammonia, 60: dissolve.

The Sal Volatile of the Br. Ph. contains too much Carbonate for this purpose: the Quinia is thrown down. Dose: ½ to 1 drm.

QUINIÆ ARSENIAS.—Dose $\frac{1}{10}$ gr.

QUINIÆ VALERIANAS.—Made by decomposing Muriate of Quinia with Valerianate of Soda. Solubility: 1 in 110 Cold Water, 1 in 40 boiling; 1 in 6 in Cold Rect. Sp.; 1 in 1 boiling: also soluble in Ether.

SYRUP OF DIKINATE OF QUINIA.—Introduced by Dr. Donovan, of Dublin. 1 drm. contains 2 grs. of Dikinate of Quinia, which is equal to 3¾ oz. of Decoction of Bark or 96 grs. of Powdered Bark.

Dose.—½ to 1 drm.

VINUM QUINIÆ (Dr. Collier).—Sulphate of Quinine, 18 grs.; Citric Acid, 15; Orange Wine, 24 oz.: dissolve. Dose: 1 oz.

RESINA.

RESIN.

The residue of the distillation of the Turpentines from various species of *Pinus* and *Abies*.

Medicinal Properties.

Important as an ingredient of ointments, but never used internally.

(In all the Pharmacopœias except Pr.; Austr. Terebinthina Cocta; Belg. Resina Alba.)

Preparations.

EMPLASTRUM.

Resin, in powder, 2; Litharge Plaster, 16; Hard Soap, 1: melt the Plaster, add the Resin and Soap, first liquefied, and mix with a gentle heat. =(1 in 9⅓).

(Lond. Edin. Dub. Belg. and U. S.; not in others.)

Used chiefly for strapping wounds and ulcers.

UNGUENTUM.

Resin, in coarse powder, 2; Yellow Wax, 1; simple Ointment, 4: melt, strain hot through flannel, and stir till cool. =(1 in 3⅓).

(Edin. Dub.; Lond. Ceratum; not in others.)

A stimulating dressing for indolent ulcers.

RHATANIA.—*See* KRAMERIA.

RHEUM.

RHUBARB.

The root of one or more undefined species of *Rheum*, deprived of its bark and dried, from Chinese Thibet and Tartary.

Test.—Free from brown specks externally and internally, without cavities. Boracic Acid does not turn the yellow exterior brown. In the powder, adulterations are detected with difficulty.

Medicinal Properties.

Cathartic and astringent, the latter property not interfering with the former, as the purgative effect precedes the astringent. Used in dyspepsia attended with constipation; in diarrhœa when purging is indicated; in the second stage of cholera infantum; in chronic dysentery, and in typhous diseases when cathartic medicine is necessary. It is non-irritant, and increases the effect of other cathartics.

4 grains of Powdered Rhubarb and 1 minim of Glycerine make a nice pill.

Dose.—As a stomachic, 1 to 5 grs. of the powder: as a purgative, 10 to 20 grs.

(In all the Pharmacopœias.)

Preparations.

EXTRACTUM.

Rhubarb, sliced or bruised, 8; Rectified Spirit, 5; Distilled Water, 50: mix and macerate four days, decant, press, and allow to settle; pour off the clear liquor, filter the remainder, mix, and evaporate, by water-bath, at 160° F., to a proper consistence.

Good Rhubarb yields 39 per cent. of Extract.

(In all the Pharmacopœias; Pr. reduced to powder; U.S. with Alcohol.)

Dose.—3 to 10 grs.

INFUSUM.

Rhubarb, in thin slices, 1; boiling Distilled Water, 40: infuse one hour and strain. =(1 in 40).

(Lond. 1 to 48; Edin. with Sp. Cinnam. 1 to 20; Dub. 1 to 36; U.S. 1 to 32; Belg. 1 to 15, cold; not in others.)

Dose.—1 to 2 oz.

PILULA COMPOSITA.

Rhubarb, in fine powder, 3 oz.; Socotrine Aloes, in fine powder, 2¼ oz.; Myrrh, in fine powder, 1½ oz.; Hard Soap, 1½ oz.; English Oil of Peppermint, 1½ drm.; Treacle, by weight, 4 oz.: reduce the Soap to fine powder and triturate it with the Rhubarb, Aloes, and Myrrh, add the Treacle and Oil, and beat into a mass.

(Same as Dub.; Edin. U.S. Lond. with Oil of Caraway; not in others.)

Dose.—5 to 10 grs.

PULVIS COMPOSITUS.

Rhubarb, in powder, 2; Light Magnesia, 6; Ginger, in powder, 1: mix. =(1 in 4½)

The original Dr. Gregory's Powder.

(Same as Edin. Dub. and U. S.; Pr. Pulvis Magnesiæ cum Rheo, pro infantibus Carb. Magnes. 60, Sacch. 40, Rhei 15, Ol. Fœnic. ♏i; not in others.)

Dose.—½ to 1 drm. 5 to 10 grs. for children.

TINCTURA.

Rhubarb, bruised, 2; Cardamoms, bruised, ¼; Coriander, bruised, ¼; Saffron, ¼; Proof Spirit, 20: macerate for forty-eight hours with 15 of the spirit, agitating occasionally, pack in a percolator, and when it ceases to drop, pour on the remaining spirit, press and wash the marc, and add spirit to make up 20. =(1 in 10).

(Same strength as Dub. and U. S.; Lond. weaker; Edin. stronger; Fr. and Belg.; Austr. Pr. Tinct. Vinosa 1 to 12.)

Dose.—As a stomachic, 1 to 2 drms.; as a purgative, ½ to 1 oz.

In Brit. Ph. we have Rhubarb, Cardamoms, *Coriander*, and Saffron.
„ Lond. „ „ Rhubarb, Ginger, Liquorice, and Saffron.
„ Edin. „ „ Rhubarb and Cardamoms.
„ Dub. „ „ Rhubarb, Cardamoms, Liquorice, and Saffron.
„ U.S. „ „ Rhubarb and Cardamoms.
„ Austr. „ „ Rhubarb, Cardamoms, and Orange, but with Wine.
„ Fr. & Belg. „ Rhubarb only.

It is to be regretted that the Committee of the British Pharmacopœia have introduced Coriander to alter the good old Tincture of Rhubarb, which has been so long used as a domestic medicine.

RHŒAS.

RED POPPY PETALS.

The petals of the *Papaver Rhœas*, dried; from indigenous plants.

Medicinal Properties.

Of feeble opiate powers; chiefly used on account of its colouring property.

Preparation.

SYRUPUS RHŒADOS.

Red Poppy Petals, dried, 13; Refined Sugar, 36; Distilled Water, 20 or a sufficiency; Rectified Spirit, 2½: add the petals gradually to the water, heated in a water-bath, frequently stirring, remove the vessel, and macerate twelve hours, press out the liquor, strain, add the Sugar, and dissolve by heat; when nearly cold, add the spirit, and Distilled Water to weigh 58 and measure 43½; sp. g. 1·330. =(1 in 3½).

(Lond. Edin. and Austr. fresh Petals 1, Sugar 3; Belg. Syr. Papav. Rheados; not in others.)

Dose.—2 to 4 drms.

RICINI OLEUM.

CASTOR OIL.

Sp. g. 0·969.

The Oil expressed in England from the seeds of the *Ricinus communis*, or imported from the East Indies and America.

It is frequently obtained by decoction, or by the agency of Alcohol.

Test.—Entirely soluble in one volume of Alcohol, and in two volumes of Rectified Spirit.

Medicinal Properties.

A mild and speedy cathartic. Particularly applicable to constipation from indurated fæces, or after swallowing acrid substances, or on the accumulation of acrid secretions. Used in diseases attended with irritation or inflammation of the bowels, as colic, diarrhœa, dysentery, and enteritis. The safest cathartic for infants, to whom a larger relative dose than to adults may be given, probably from their digesting more of the Oil. An enema may be made of 2 or 3 ounces, with some mucilaginous fluid.

(In all the Pharmacopœias.)

Dose.—½ to 1 oz. for adults, 1 to 3 drms. for infants.

May be administered floating on some aromatic water, or mixed in a cup of hot sweetened coffee; or, for a delicate stomach, as an emulsion with yolk of egg, loaf sugar, and aromatic water.

The yolk of an egg = f ℥ss is sufficient for f ℥j Castor Oil.

ROSA CANINA.

HIPS.

The ripe fruit of the *Rosa canina*, deprived of the hairy seeds; indigenous.

Medicinal Properties.

Slightly refrigerant and astringent. Chiefly used in confection, also as a pill basis, and for making electuaries and linctuses.

(Lond. Edin. Fr. Cynorrhodons; not in others.)

Preparation.

CONFECTIO.

Hips, 1; Refined Sugar, 2: beat the hips to a pulp in a stone mortar, add the sugar, and mix thoroughly. =(1 in 3).

(Lond. Edin. Belg. and Fr. Conserva Cynorrhodi; not in others.)

Dose.—1 drm. or more.

ROSA CENTIFOLIA

CABBAGE ROSE PETALS.

The fresh petals of the *Rosa centifolia*, fully expanded; from plants cultivated in Great Britain.

Medicinal Properties.

Slightly laxative, and sometimes given as a syrup combined with cathartics, but chiefly used in the preparation of rose-water.

(In all the Pharmacopœias; Pr. Flores Rosarum Incarnatarum.)

Preparation.

AQUA ROSÆ.

Fresh Petals, 1; Water, 2; distil 1. =(1 in 1).

An agreeable vehicle for medicines; employed in making lotions.

(Same as Lond. and Fr.; Edin. with a little Spirit; Dub. with Otto; U. S. and Belg. 1 in 2½; Austr. 1 in 3; Pr. 1 in 5.)

Dose.—1 to 2 oz.

ROSA GALLICA.

RED ROSE PETALS.

The unexpanded petals of the *Rosa Gallica*, fresh and dried; cultivated in Great Britain.

Medicinal Properties.

Astringent. Often used on account of their colouring matter.

(In all the Pharmacopœias except Pr.)

Preparations.

CONFECTIO.

Fresh Red Rose Petals, 1; Refined Sugar, 3: beat the petals to pulp in a stone mortar, add the Sugar, and beat well together. =(1 in 4).

Used as a pill basis. Applied to aphthous conditions of the mouth as a linctus.

(In all the Pharmacopœias, except Pr.; Fr. and Austr. with Rose Water; U. S. with Honey.)

Dose.—½ to 1 drm., or more.

INFUSUM ROSÆ ACIDUM.

Red Rose Petals, 1; Diluted Sulphuric Acid, ½; boiling Distilled Water, 40: infuse for half an hour with the acid and water: strain. =(1 in 40).

Astringent. An excellent vehicle for more powerful medicines. An agreeable gargle; but Borax and Alkalies change the colour to green.

(Same as Dub.; Lond. Edin. and U. S. made with Sugar; Fr. without acid; not in others.)

Dose.—1 to 2 oz.

SYRUPUS.

Dried Rose Petals, 1; Refined Sugar, 15; boiling Distilled Water, 10: infuse the Petals in the Water two hours, squeeze through calico, and filter; add the Sugar and dissolve with heat. The product should weigh 23, and measure 17¼. Sp. g. 1·335. =(1 in 17¼).

Mildly astringent. Used to add to mixtures on account of its colour.

(Edin. and Dub. stronger; Lond. and Fr. Syr. Ros. Centif.; Belg. 1 in 10; U. S. 1 in 15; not in others.)

Dose.—1 to 4 drms.

Not Officinal.

Infusum Rosæ cum Acido Nitrico.—Rose Petals, broken small, 2; Dilute Nitric Acid, ½; cold Distilled Water, 40: infuse two hours, frequently stirring, strain and add Powdered Sugar, 1. Used for Quinine draughts.

Neither Sulphuric Acid nor a neutral Sulphate may be prescribed with Quinine in this infusion, for with either it will become turbid.

ROSMARINI OLEUM.

ENGLISH OIL OF ROSEMARY.

The Oil distilled in England from the flowering tops of *Rosmarinus officinalis.*

Sp. g. 0·911, reduced to 0·886 by rectification.

Soluble in Alcohol (sp. g. 0·887), 1 in 40.

Contained in Linimentum Saponis, Tinctura Lavandulæ Composita.

Medicinal Properties.

A powerful stimulant. Used in hysteria and nervous headaches; externally as a rubefacient, and for its odour.

(In all the Pharmacopœias except Edin. and Dub.)

Dose.—2 to 5 minims, in pill, Sugar, or emulsion.

Preparation.

SPIRITUS.

English Oil of Rosemary, 1; Rectified Spirit, 9: dissolve. =(1 in 10).

(Lond. 1 in 640; Edin. Austr. Fr. from flowering tops; Dub. Essentia Rosmarini; not in others.)

The Brit. is thus 64 times stronger than Lond., but it is stated to be only 31 times stronger.

Dose.—10 to 30 minims.

RUTÆ OLEUM.

ENGLISH OIL OF RUE.

The Oil distilled in England from the fresh leaves and unripe fruit of the *Ruta graveolens.*

Medicinal Properties.

Stimulant and antispasmodic. Given in hysteria, convulsions, and amenorrhœa. A powerful topical stimulant and rubefacient.

(Lond. Edin. Fr. Austr. and Belg.; not in others.)

Dose.—2 to 6 minims in emulsion.

SABADILLA.

CEVADILLA.

The dried fruit of the *Asagræa officinalis,* imported from Vera Cruz and Mexico.

Medicinal Properties.

An acrid, drastic emeto-cathartic, operating occasionally with great violence; used as an anthelmintic in tænia, but Male Fern is safer and equally effective. May be used cautiously for pediculi.

Chiefly introduced into the Pharmacopœia for the purpose of making Veratria, and might have been placed in the Appendix A.—*See* VERATRIA.

(Belg. Fr. Austr. and U. S.; not in others.)

Dose.—In powder, 4 to 6 grs.

SABINA.

SAVIN.

The fresh and dried tops of the *Juniperus Sabina*, collected in spring from plants cultivated in Britain.

Medicinal Properties.

A powerful local and general stimulant, diaphoretic, emmenagogue, and anthelmintic; used occasionally in gout and chronic rheumatism. The dried leaves, or powder, externally as a local stimulant or escharotic, applied to warts, flabby ulcers, etc. The expressed juice diluted, or an infusion, as a lotion for gangrenous sores, scabies, and tinea capitis.

(In all the Pharmacopœias, except Austr.)

Dose.—In powder, 5 to 15 grs. two or three times daily; the powder and tincture are convenient forms of administration.

Preparations.

OLEUM.

The Oil distilled in England from fresh Savin, sp. g. 0·915.

(In all the Pharmacopœias; Lond. Edin. U.S. Pr.; not in others.)

Dose.—2 to 5 minims.

TINCTURA.

Savin, recently dried and bruised, 1; Proof Spirit, 8: macerate forty-eight hours, with 6 of the spirit, agitating occasionally; pack in a percolator, and when it ceases to drop pour on the remaining spirit, press and filter, and add spirit to make 8. =(1 in 8).

A new preparation.

(Belg. 1 in 6.)

Dose.—15 to 30 minims.

UNGUENTUM.

Fresh Savin, bruised, 8; White Wax, 3; Prepared Lard, 16: melt the lard and the wax together, add the Savin, digest twenty minutes, strain; should be freshly prepared, as it does not keep. =(1 in 3⅔).

To keep up suppuration from a blister or issue by preventing it from healing, and for application to indolent ulcers.

(Nearly as Lond. Edin. and Belg.; Dub. with powder; not in others.)

SACCHARUM ALBUM.

REFINED SUGAR.

$C_{12}H_{11}O_{11}$; eq. 171.

The crystallized refined juice of the stem of the *Saccharum officinarum*; cultivated in the West Indies and other tropical countries.

Solubility: in Water, 100 in 45, measures 113; in Rectified Spirit, 1 in 100.

Medicinal Properties.

Demulcent, used in catarrhal affections in the form of candy, syrup, etc. Employed in pharmacy to render oils miscible with water. Enters into the composition of several mixtures and pills, and all the confections, syrups, and lozenges.

Preparation.

SYRUPUS.

Refined Sugar, 6; Distilled Water, 3: dissolve the sugar in the water with the aid of heat, and when cool add water to weigh 9, and measure very nearly 7. Sp. g. 1·330. =(1 in $1\frac{1}{6}$)

(In all the Pharmacopœias.)

It is convenient to remember that 7 measures of Syrup contain 6 of Sugar.

SACCHARUM LACTIS.

SUGAR OF MILK.

$C_{24}H_{24}O_{24}$; eq. 360.

Crystallized Sugar obtained from the Whey of Cow's Milk by evaporation; manufactured largely in Switzerland.

Solubility: in Cold Water, 1 in 5; Boiling Water, 1 in 3; slightly soluble in Rectified Spirit.

Sp. g. 1·540.

Medicinal Properties.

As a non-nitrogenous article of diet in consumption and other pulmonary diseases, and in cases of extreme irritability of the stomach, following profuse loss of blood. Used to mix with the food of children; dissolved in water, and mixed with cow's milk, it forms a good substitute for that of the mother. Useful for rubbing up medicinal powders.

(Not in Lond. Edin. Fr., but in all others.)

Dose.—1 to 2 drms. or more, in water.

Not Officinal.

SALICINUM.

SALICIN.

$C_{42}H_{20}O_{22}$; eq. 448.

A neutral substance obtained from the bark of the *Salix alba.*

In silky acicular crystals and laminæ, white, bitter, inodorous.

Solubility: in Water, 1 in 18.

Medicinal Properties.—Tonic, analogous to those of the Sulphate of Quinia, and less liable to irritate the stomach; employed in dyspepsia and intermittent diseases.

Dose.—5 to 10 grs.

SAMBUCUS.

ELDER FLOWERS.

The fresh flowers of the *Sambucus nigra*, from indigenous plants.

Medicinal Properties.

Mildly stimulant. Externally, as a discutient, in the form of poultice, fomentation, or ointment.

Preparations.

AQUA.

Fresh Elder-flowers, separated from the stalks, 1; Water, 2: distil 1. =(1 in 1).

(One-fourth stronger than Lond. and Edin.; Belg. ⅓ the strength; Austr. and Fr., with dried flowers; not in others.)

Chiefly used as a perfume; it is, however, a pleasant vehicle for medicines, and may be used for lotions.

There is always a large quantity of vegetable matter in this water, which causes it to grow acid and impairs its odour. In practice it is better to distil of double strength and dilute when required.

Not Officinal.

UNGUENTUM.—Elder Flowers, fresh, and Lard, equal parts: melt the Lard, add the Flowers, continue the the heat, stir for ten minutes, and strain.

(Same as Lond.; not in others.)

A cool, soothing application to irritable sores.

SANTONINUM.

SANTONIN.

$C_{30}H_{18}O_6$.

A crystalline neutral principle, obtained from the *Artemisia Santonica* or *Semen contra.**

---

* *Semen contra* is not a seed, but the unexpanded flower-heads of a species of *Artemisia*, imported from Russia, and is the only so-called worm-seed which yields Santonin in quantity worth extracting.

In colourless, flat, rhombic prisms, feebly bitter.

Solubility: in Rectified Spirit, 1 in 50. Sparingly soluble in Water.

Test.—Not dissolved by diluted mineral acids. Entirely destructible by a red-heat with free access of air.

(Austr. Belg. Pr. U.S.; not in others.)

Medicinal Properties.

Anthelmintic. Being tasteless, it is a pleasant vermifuge for children. Useful both against tape and thread-worms. Said to have been used with success in intermittents.

Dose.—4 to 6 grs. for children.

About three doses are sufficient, one every other night, followed by a brisk cathartic.

SAPO.

SOAP.

Soaps embrace all those compounds which result from the reaction of salifiable bases with fats and oils.

SAPO DURUS.

HARD OR WHITE CASTILE SOAP.

Soap made with Olive Oil and Soda.

Test.—Entirely soluble in Rectified Spirit. Brit. Ph.

This is an error, since the author finds that of 30 grains of White Castile Soap digested for four days in 1 ounce of Rectified Spirit, only 24 grains are dissolved.

Medicinal Properties.

Laxative, antacid, and antilithic. Combined with Rhubarb, it is administered in dyspepsia attended with constipation and torpor of the liver. In large and frequent doses it is most effective in removing gall-stones.

(In all the Pharmacopœias.)

Dose.—5 to 15 grs.

Preparations.

EMPLASTRUM SAPONIS.

Hard Soap, in powder, 6; Litharge Plaster, 36; Resin, in powder, 1: to the Litharge Plaster, previously melted, add the Soap and the Resin, first liquefied, then, constantly stirring, evaporate to a proper consistence.

=(1 in 7½).

Rendered a little adhesive by the addition of Emplastrum Resinæ, it is spread on Amadou, and is useful to shield any part of the foot from pressure of the shoe.

(Nearly same as Lond.; Edin. 1 in 7; Dub. U.S. 1 in 10; Belg. 1 in 16; Pr. 1 in 15; Austr. Empl. Saponatum, 1 in 12½ with Camphor; Fr. 1 in 18.)

LINIMENTUM SAPONIS.

Hard Soap, 2½ oz.; Camphor, 1¼ oz.; English Oil of Rosemary, 3 drms.; Rectified Spirit, 18 oz.; Distilled Water, 2 oz.: mix the water with the

spirit, add the other ingredients, digest at a temperature not exceeding 70° F., agitating occasionally till all are dissolved. =(1 in 10 nearly)

So far from being all dissolved, as the British Pharmacopœia states, the Author finds that there is a considerable quantity left undissolved.

(Nearly same as Lond. Edin. and U. S.; Dub. without Rosemary; Austr. 1 in 5; Belg. 1 in 8; Pr. 1 in 15 with Ammonia; Fr. Lin Savonneux, 1 in 7.)

Contained in Linimentum Opii.

Not Officinal.

GLYCERINE SOAP, JUNIPER TAR SOAP, BICKNELL'S PURE YELLOW SOAP, OXIDE OF ZINC SOAP, are occasionally prescribed for skin diseases.

STEER'S OPODELDOC is solid, and made as Arnica Opodeldoc, substituting Rosemary.

CERATUM SAPONIS Co., P. L.—Hard Soap, 10; Bees'-Wax, 12½; Oxide of Lead (in powder), 15; Olive Oil, 20; Vinegar, 160. Boil the Vinegar with the Oxide over a slow fire, constantly stirring them until they unite; then add the Soap, and boil again in a similar manner until all the moisture is evaporated; lastly, mix with the Wax previously dissolved in the Oil.

SAPO MOLLIS.

SOFT SOAP.

Soap made with Olive Oil and Potash.

Test.—Entirely soluble in Rectified Spirit; not imparting an oily stain to paper.

(Lond. and Edin.; Fr. Savon de Potasse; Belg. Sapo Viridis; not in others.)

SARSA.

JAMAICA SARSAPARILLA.

The dried root of the *Smilax officinalis*, native of Central America; imported from Jamaica. Brought into Europe about 1630.

Medicinal Properties.

Alterative and tonic. It is of especial service in secondary syphilis, alone or in combination with other remedies. Also in chronic rheumatism, with sudorifics and anodynes, and in cachectic diseases, chronic abscesses attended with profuse discharge, and many maladies connected with a depraved state of the system.

The virtues of Sarsaparilla have been much disputed, on account of the difficulty of explaining its action.

(In all Pharmacopœias.)

Preparations.

DECOCTUM.

Jamaica Sarsaparilla, not split, 1; boiling Distilled Water, 12: digest for an hour, boil ten minutes, cool, and strain. The product should measure 8. =(1 in 8).

(About the same as Lond. Edin. Dub. and Belg.; not in others.)

Dose.—½ to 1 pint daily, in divided doses.

DECOCTUM COMPOSITUM.

Jamaica Sarsaparilla, not split, 20; Sassafras, in chips, 2; Guaiac Wood turnings, 2; fresh Liquorice Root, 2; Mezereon, 1; boiling Distilled Water, 240: digest for one hour, boil ten minutes, cool, and strain. The produce should measure 160. =(1 in 8).

(About the same as Lond. Edin. Dub. and U. S.; not in others.)

Dose.—½ to 1 pint daily, in divided doses.

EXTRACTUM LIQUIDUM.

Jamaica Sarsaparilla, 16; Distilled Water (temp. 160° F.), 280; Rectified Spirit, 1: macerate in half the water for six hours and decant the liquor; digest the residue in the remainder of the water for six hours more, mix the liquors, express and filter, evaporate by water-bath to 7 or until it has a sp. g. 1·130, when cold add the spirit. Sp. g. should be about 1·095. =(2 in 1).

A new preparation.

A fluid oz. evaporated produces ½ oz. of solid extract.

(Same strength as Lond.; Pr. Decoctum Sarsaparillæ Concentratum; Edin. and Dub. ¾ in 1; U. S. 1 in 1; not in others.)

Dose.—1 to 4 drms.

Not Officinal.

EXTRACTUM SARSÆ COMPOSITUM LIQUIDUM, Liquid Compound Extract of Sarsaparilla.—Jamaica Sarsaparilla, cut transversely, 16 oz.; Sassafras, sliced, 2 oz.; Guaiacum Wood, rasped, 2 oz.; Liquorice Root, bruised, 2 oz.; Mezereon, cut, 1 oz.; Rectified Spirit, 1 oz.; Distilled Water, 6 pints: macerate the first five ingredients in one-half of the water, at a temperature not exceeding 160° F., for six hours, and decant the liquor; digest the residue in the remainder of the water for the same time, and express; filter the mixed liquors, and evaporate by a water-bath to 7 fluid ounces, when cold add the spirit. =(2 in 1).

Dose.—1 to 4 drms.

(Double the strength of U. S.)

SASSAFRAS.

SASSAFRAS.

The dried root of the *Sassafras officinalis*, from North America.

Medicinal Properties.

Stimulant and diaphoretic. Used as an adjuvant to other medicines, the flavour of which it improves, while it renders them more cordial to the stomach. Used in chronic rheumatism, cutaneous eruptions, scorbutic and syphilitic affections.

The bark of the root is now an article of commerce.

(Lond. Edin. Dub. Fr. Belg. and U. S. the Root-bark; not in others.)

Contained in Decoctum Sarsæ Compositum.

SCAMMONIUM

SCAMMONY.

A Gum Resin obtained from the root of *Convolvulus Scammonia*, a native of Syria, by excision of the crown of the root, the juice of which, collected in

shells, is suffered to concrete. The purest is known in commerce as Virgin Scammony.

Solubility: almost entirely dissolved in boiling diluted Rectified Spirit.

Test.—It does not effervesce with Hydrochloric Acid. Boiling Water, agitated with the powder, cooled and filtered, does not strike a blue colour with tincture of Iodine—indicating absence of Starch. Ether removes from 80 to 90 per cent. of Resin; and what remains is chiefly soluble Gum with a little moisture.

Medicinal Properties.

A powerful drastic cathartic, apt to occasion griping. Usually given with Calomel, and its action is corrected by the Sulphate of Potassa. May be used in all cases of torpid bowels, and for removing scybala; also as a vermifuge for children.

(In all the Pharmacopœias, except Pr.)

Dose.—5 to 15 grs. of pure Scammony or of the Resin.

Contained in Extractum Colocynthidis Compositum, Pilula Colocynthidis Composita, Pilula Colocynthidis et Hyoscyami.

Preparations.

CONFECTIO.

Scammony or Resin of Scammony, in fine powder, 24; Ginger, in fine powder, 12; Oil of Caraway, 1; Oil of Cloves, ½; Syrup, 24; Clarified Honey, 12: rub the powders with the Syrup and the Honey into a uniform mass, then add the Oils, and mix. =(1 in 3).

(Same as Dub.; Lond. about the same strength; not in others.)

Dose.—10 to 30 grs.

MISTURA.

Resin of Scammony, 4 grs.; Milk, 2 oz.: triturate and form an emulsion. =(1 in 240).

(Nearly as Edin.; not in others.)

Dose.—The quantity of the formula for an adult, half for a child.

PULVIS COMPOSITUS.

Scammony, 4; Jalap, 3; Ginger, 1: mix and reduce to fine powder. =(1 in 2).

(Nearly as Lond. Edin. Dub.; not in others.)

Dose.—10 to 20 grs.

SCAMMONIÆ RADIX.

The dried root.

Medicinal Properties.

An energetic cathartic. May be used when brisk action is needed, but on account of its griping properties it is rarely used alone. In combination, it promotes the action of other medicines, whilst its own harshness is mitigated.

(A new introduction.)

SCAMMONIÆ RESINA.

RESIN OF SCAMMONY.

Made by a patented process, and said to be equal to Virgin Scammony. A formula for its preparation is given in the British Pharmacopœia: it is difficult, however, to obtain the root, and when obtained it is a question whether the patentee would permit the Resin to be made.

It is soluble in Ether.

A new preparation.

Dose.—4 to 8 grs. in powder, or in emulsion with 3 or 4 oz. of milk.

SCILLA.

SQUILL.

The bulb of the *Urginea Scilla*, from the Mediterranean coasts, sliced and dried.

Medicinal Properties.

A stimulant expectorant and diuretic. It increases the secretion of the bronchial mucous membrane and aids the expectoration of mucus. As an expectorant, it is used with Ipecacuanha and Ammoniacum; as a diuretic, generally given with Mercury.

(In all the Pharmacopœias; Pr. Bulbus Scillæ.)

Dose.—1 to 2 grs. of the powder.

Preparations.

PILULA COMPOSITA.

Squill, in fine powder, 1¼; Ginger, in fine powder, 1; Ammoniac, in powder, 1; Hard Soap, 1; Treacle, by weight, 2 or a sufficiency: reduce the Soap to powder, triturate with the other ingredients, adding the Treacle last, beat into a mass. =(1 in 5).

(Same as Dub.; Edin. 1 in 4; Lond. and U. S. 1 in 9; Belg. 1 in 7; not in others.)

Dose.—5 to 10 grs.

SYRUPUS.

Squill, bruised, 2½; Dilute Acetic Acid, 20; Refined Sugar, 32; Proof Spirit, 1½: digest the Squill in the dilute Acetic Acid for three days, with a gentle heat, express, add the spirit, filter, then add the Sugar, and dissolve with heat. The product should weigh 50 and measure 37½; sp. g. 1·330.

(Nearly as Edin. Dub. Belg. Austr. U. S.; not in others.) =(1 in 17).

Dose.—1 to 2 drms.

TINCTURA.

Squill, bruised, 1; Proof Spirit, 8: macerate forty-eight hours with 6 of the spirit, agitating occasionally, pack in a percolator, let it drain, and pour on the remaining spirit; when it ceases to drop, press, filter, and make up to 8. =(1 in 8).

(Same as Lond. Edin. Dub.; U.S. 1 in 7½; Fr. 1 in 5; Belg. 1 in 5½; Pr. 1 in 7; not in Austr.)

Dose.—15 to 30 minims.

Not Officinal.

OXYMEL SCILLÆ (Lond.).—Vinegar* of Squills, 5; Honey, 6½: evaporate the Vinegar over a slow fire to one-fourth, mix with the Honey made hot.

The evaporation of the Vinegar should be conducted with great care, lest the bitter principle of the Squill be injured; perhaps a stronger Vinegar *without heat* would be preferable.

Expectorant in chronic coughs.

Dose.—½ to 2 drms.

SCOPARIUS.

BROOM TOPS.

The tops of the *Sarothamnus*, fresh and dried; indigenous.

Medicinal Properties.

Diuretic and cathartic. Employed in dropsical complaints.

(Not in Austr. Belg. Fr. nor Pr.)

Preparations.

DECOCTUM.

Broom Tops, dried, 1; Distilled Water, 20: boil ten minutes and strain. The produce should measure 16. =(1 in 16).

(Same as Dub.; Lond. and Edin. are compound; not in others.)

Dose.—2 to 4 oz.

SUCCUS.

Bruise fresh Broom Tops in a stone mortar, express the juice, and to every 3 add 1 of Rectified Spirit; set aside seven days and filter. Keep it in a cool place.

Dose.—½ to 1 drm.

A new preparation.

SENEGA.

SENEGA.

The dried root of the *Polygala Senega*, from North America.

(In all the Pharmacopœias except Belg. and Fr.)

Medicinal Properties.

A stimulating expectorant and diuretic, and, in large doses, emetic and cathartic. Used in asthenic and chronic bronchitis, and in dysmenorrhœa and albuminuria.

Dose.—In powder, 15 to 20 grs.

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* Vinegar of Squills is made by digesting for three days 1 part of Squills in 8 of diluted Acetic Acid.

Preparations.

INFUSUM.

Senega, bruised, 1; boiling Distilled Water, 20: infuse one hour and strain. =(1 in 20).

(Edin. and Dub. 1 in 16; Lond. Decoctum; not in others.)

Dose.—1 to 2 oz.

TINCTURA.

Senega, bruised, 1; Proof Spirit, 8: macerate forty-eight hours with 6 of the spirit, agitating occasionally, pack in a percolator, and let it drain, pour on the remaining spirit; when the fluid ceases to drop, press, filter, and make up 8. =(1 in 8).

Dose.—1 to 2 drms.

A new preparation.

SENNA.

SENNA.

The leaves of various species of *Cassia*. The British Pharmacopœia recognizes two kinds: the Alexandrian Senna (*Senna Alexandrina*, imported from Alexandria, being the leaves of the *C. lanceolata* and *C. obovata* carefully freed from the flowers, pods, and leaf-stalks; and the Tinnivelly Senna (*Senna Indica*), the leaves of the *C. elongata* from plants cultivated in southern India. The Alexandrian Senna must be free from admixture of leaves, flowers, and fruit of the Arghel (*Solenostemma Arghel*). The unequally oblique base and freedom from bitterness distinguish the Senna from Arghel leaves, which are also thicker, greyer, and more wrinkled.

Medicinal Properties.

A general and efficient laxative in cases of occasional or habitual constipation. Given alone, it occasions griping and nausea; it is therefore best administered with aromatics. Used in dyspepsia, and in febrile and inflammatory diseases; but as it is somewhat drastic it must be avoided when the alimentary canal is much affected.

(In all the Pharmacopœias.)

The different kinds of Senna, freed from stalks, are of nearly equal medicinal value.

Dose.—Of powder, 10 to 30 grs.

Preparations.

CONFECTIO.

Senna, in fine powder, 7; Coriander, in fine powder, 3; Figs, 12; Tamarinds, 9; Cassia Pulp, 9; Prunes, 6; Extract of Liquorice, ¾; Refined Sugar, 30; Distilled Water, 24. Boil the Figs gently in the water four hours; express and strain; add water to make up 24: to this add the Prunes, boil four hours, then add the Tamarinds and Cassia; macerate a short time, and press the pulp through a hair sieve; dissolve the Sugar and Liquorice in the mixture with gentle heat, add the Senna and Coriander. The result should weigh 60. =(1 in 8½).

(Same as Lond.; Edin. without Cassia and Tamarind; Dub. with Oil of Caraway, but without Liquorice and Figs; Belg. Electuarium Sennæ Comp.; Fr. Électuaire Lénitif, more complex; Pr. Electuarium Sennæ; not in others.)

Dose.—½ to 2 drms.

INFUSUM.

Senna, ½ oz.; Ginger, sliced, 30 grs.; boiling Distilled Water, 10 oz.: infuse one hour and strain. =(1 in 20).

(Same strength as Dub.; Lond. 2 in 20; Edin. 1½ in 20; Belg. 1 in 10; Austr. Inf. Laxativum with Manna, 1 in 8; Pr. Composita, 1 in 8, with Manna and Rochelle Salt; U. S. with Coriander, 1 in 16; not in others.)

Dose.—1 to 3 oz.

As this infusion quickly spoils by keeping in warm weather, the addition of 1 gr. of Nitre to each ounce will be found to impart great conservative power.

SYRUPUS.

Senna, broken small, 8; Oil of Coriander, *q. s.*; Refined Sugar, 12; Distilled Water, 50, or a sufficiency; Rectified Spirit, 1: digest the Senna in three-fourths of the water twenty-four hours, press, and strain; digest the marc in the remainder of the water six hours, press, and strain; evaporate the mixed liquors to 5; when cold, add the Rectified Spirit, containing 1½ minim of Oil of Coriander to each ounce of spirit. Filter, and wash the filter with water to make up 8; add the Sugar, and dissolve with gentle heat. Should weigh 21, and measure 16. Sp. g. 1·310. =(1 in 2).

(A new formula, considerably stronger than Lond. and Edin.; Belg. and Pr. with Fennel and Manna; Austr. with Aniseed and Manna; not in others.).

Dose.—1 to 2 drms.

TINCTURA.

Senna, broken small, 5; Raisins, free from seeds, 4; Caraway, 1; Coriander, 1; Proof Spirit, 40: macerate the ingredients forty-eight hours in three-fourths of the spirit, agitating occasionally; pack in a percolator, and when it ceases to drop pour on the remaining spirit; press, filter, and make up 40. =(1 in 8).

(Lond. 1 in 11; Edin. and Dub. 1 in 10; Fr. 1 in 4½; Belg. 1 in 5½; not in others.)

Dose.—2 to 8 drms.

SERPENTARIA.

SERPENTARY.

The dried root of the *Aristolochia Serpentaria*, from the southern part of North America.

Medicinal Properties.

Stimulant, tonic, and diaphoretic. A valuable remedy in the low stage of typhus, combined with Sesquicarbonate of Ammonia, given when the tongue is dry and brown or black, and the pulse low. Used in dyspepsia and chronic rheumatism.

(In all the Pharmacopœias.)

Dose.—Of the powder 10 to 15 grs.

Preparations.

INFUSUM.

Serpentary, 1; boiling Distilled Water, 40: infuse two hours, and strain. =(1 in 40).

(Same as Lond. and Edin.; U. S. 1 in 32; not in others.)

Dose.—1 to 2 oz.

TINCTURA.

Serpentary, bruised, 1; Proof Spirit, 8: macerate forty-eight hours, with 6 of the spirit, agitating occasionally, pack in a percolator and let it drain; pour on the remaining spirit, and when it ceases to drop, press, and wash the marc to make 8. =(1 in 8).

(Lond. Edin. 1 in 11; U. S. 1 in 7⅝; Belg. 1 in 5½; not in others.)

Dose.—½ to 2 drms.

SEVUM PRÆPARATUM.

PREPARED SUET.

The internal fat of the abdomen of the sheep, purified by melting and straining.

Contained in Emplastrum Cantharidis and Unguentum Hydrargyri.

(In all the Pharmacopœias except Austr. Dub. and Pr.)

Not Officinal.

SIMARUBA.

BITTER SIMARUBA, OR MOUNTAIN DAMSON.

The root bark of the *Simaruba officinalis*, from the West Indies.

Medicinal Properties.—A bitter tonic. In large doses causes nausea; is diaphoretic and diuretic. Principally used in the asthenic and chronic form of dysentery; may be combined with opium in epidemic dysentery, and in the advanced stages of diarrhœa.

Dose.—15 to 30 grs.

Preparation.

INFUSUM.

Simaruba, bruised, 3 drms.; boiling Water, 1 pint: infuse two hours and strain. =(1 in 53)

(As Edin.; Dub. and Fr. 1 in 32; not in others.)

Dose.—1 to 2 oz.

SIMABA CEDRON Seeds possess this bitter in an eminent degree, and well deserve a therapeutic trial. Dose of the powder: 1 to 3 grs.

SINAPIS.

MUSTARD.

The seeds of the *Sinapis nigra* and *S. alba* reduced to powder, mixed.

Test.—A decoction cooled is not made blue by Tincture of Iodine—indicating absence of Starch.

Medicinal Properties.

Powerfully stimulant; swallowed whole as a laxative. The powder as an emetic, or as a rubefacient.

(In all the Pharmacopœias.)

Preparation.

CATAPLASMA.

Mustard, in powder, 2½; Linseed Meal, 2½; boiling Water, 10: mix the Linseed Meal with the water, and add the Mustard, constantly stirring.

Used as a counter-irritant in inflammation, neuralgic pains; also in spasms.)

(Same as Lond.; Fr. Mustard only; not in others.)

Not Officinal.

LINIMENTUM SINAPIS NIGRÆ.—℞ Ol. Sinapis Nigr. ʒj; Olivæ Opt. ℥j. M.

A stimulating liniment.

SINAPINE PAPER owes its efficacy chiefly to Capsicine.

SODIUM.

SODIUM.

Na; eq. 23.

The metallic base of the alkali Soda, discovered by Sir Humphry Davy in 1807, is a soft, malleable, sectile solid, of a silver-white colour possessing a high degree of metallic lustre, which quickly tarnishes on exposure to the air. Like Potassium, it has a strong affinity for Oxygen: when thrown on cold water, it instantly fuses to a globule, without combustion, and traverses the surface in all directions; on hot water it inflames. Sp. g. 0·970.

There are no direct officinal preparations of Sodium; its oxide alone is salifiable, from which are derived the preparations of the Pharmacopœia. The Chloride of Sodium is obtained by dissolving Rock Salt in water, and recrystallizing it; some, however, absolutely pure and perfectly white, is found imbedded in the common brown Rock Salt.

From the Chloride the Carbonate is now prepared, from which all the other preparations of Soda are made. The Sulphate of Soda and Aqua Sodæ Effervescens (Edin.) are omitted from the British Pharmacopœia.

The following are the preparations of Soda given in the British Pharmacopœia:—

SODÆ ARSENIAS.
SODÆ ARSENIATIS LIQUOR.
SODÆ BIBORAS.—*See* BORAX.
SODÆ BICARBONAS.
SODÆ CARBONAS.
SODÆ CARBONAS EXSICCATA.
SODA CAUSTICA.
SODÆ LIQUOR.—*See* SODA CAUSTICA.

SODÆ CHLORATÆ LIQUOR.
SODÆ ET POTASSÆ TARTRAS.
SODÆ PHOSPHAS.

The Acetate, Hyposulphite, Nitrite, and Valerianate of Soda will be found in the Appendix.

SODÆ ARSENIAS.

ARSENIATE OF SODA.

$2\,NaO,HO,AsO_5 + 14\,HO$; eq. 312.

In colourless transparent prisms. Prepared by fusing Arsenious Acid with Nitrate and Carbonate of Soda.

Solubility: in water, 1 in 2.

Test.—Heated to 300°, it loses 40·38 per cent. of its weight. A watery solution of 10 grains of the residue, heated with 5·3 measures of the volumetric solution of Soda, continues to give a precipitate with the volumetric solution of Nitrate of Silver until 161·3 measures of the latter have been added. This precipitate is Arseniate of Silver, and proves that the proper quantity of Arsenic Acid is present.

(Belg. dried Salt; Fr. crystallized; not in others.)

A new preparation.

Preparation.

LIQUOR.

Arseniate of Soda (rendered anhydrous by a heat not exceeding 300° F.), 4 grs.; Distilled Water, 1 oz.: dissolve. =(1 in 120).

Pearson's Solution.

(Belg. and Fr. 1 in 600.)

Medicinal Properties.

Similar to those of the Arsenite of Potash, or Fowler's Solution. Used in skin and nervous diseases. It cures eczema more speedily than Liquor Arsenicalis, producing less gastric disturbance and less irritability of the conjunctiva.

It is of about the same strength as Liquor Arsenicalis.

Dose.—3 to 5 minims, carefully increased.

A new preparation.

SODÆ BICARBONAS.

BICARBONATE OF SODA.

$NaO,HO,2\,CO_2$; eq. 84.

In powder, or small opaque irregular scales, white, of a saline not unpleasant taste.

Solubility: in Water, 1 in 10.

Test.—When supersaturated with Nitric Acid, its solution scarcely precipitates with Chloride of Barium or Nitrate of Silver—indicating a mere trace of sulphate and chloride. 84 grains, exposed to a red heat, leave 53 of alkaline residue (carbonate), which requires for neutralization 100 measures of the volumetric solution of Oxalic Acid.

Medicinal Properties.

Analogous to those of the Bicarbonate of Potash; it is less caustic and irritating than Carbonate of Soda. Employed as an antacid in dyspepsia; useful in calculus with excess of Uric Acid, and as a resolvent or alterative in some forms of inflammations, glandular affection, syphilis, and scrofula. Also as a diuretic in dropsy.

(In all the Pharmacopœias; Austr. and Pr. Natrum Bicarbonicum; Belg N. B. Acidulum.)

Dose.—10 to 30 grs.

Not Officinal.

SODA WATER.—Each bottle contains about 5 grains of Carbonate of Soda.

PULVIS SALINUS ANTICHOLERICUS (Dr. Stevens).—Bicarbonate of Soda, 30 grs.; Chloride of Sodium, 20 grs.; Chlorate of Potash, 7 grs.: for one dose.

Given frequently in a small tumbler of water, to arrest the pain in purging.

SODÆ CARBONAS.

CARBONATE OF SODA.

NaO,CO_2+10HO; eq. 143.

In transparent, colourless, laminar crystals of a rhombic shape, efflorescent, with a harsh alkaline taste, and strong alkaline reaction.

Solubility: in Water, 1 in 2. Insoluble in Rectified Spirit.

(In all the Pharmacopœias.)

Native Carbonate of Soda is found chiefly in Hungary, Egypt, and South America, existing either in the earth or in small lakes, whence it is procured by evaporation.

Soda has been largely procured from the combustion of marine vegetables, which furnishes the impure alkalis kelp and barilla, whence it is extracted by the process of lixiviation and crystallization.

It is, however, chiefly procured from sea salt, by converting the salt by Sulphuric Acid into Sulphate of Soda, then by decomposing the sulphate by Carbonate of Lime and Charcoal at a high temperature. This process was discovered in 1784 by Leblanc.

Test.—When supersaturated with Nitric Acid it precipitates only slightly or not at all with Chloride of Barium or Nitrate of Silver—indicating a trace of Sulphate and Chloride. 143 grains require for neutralization at least 96 measures of the standard solution of Oxalic Acid.

Medicinal Properties.

Antacid, antilithic, and resolvent. Given principally in diseases attended with acidity of the stomach, as gout and dyspepsia.

Dose.—10 to 30 grs. in powder, or in bitter infusion.

Preparation.

SODÆ CARBONAS EXSICCATA. NaO,CO_2; eq. 53.

Expose the Carbonate of Soda in a porcelain capsule to a rather strong sand-heat, until the liquor first formed becomes a dry cake. Reduce to powder.

53 grains are equal to 143 grains of crystallized salt.

Dose.—5 to 15 grs. three times daily in pill, with soap and aromatics.

(In all the Pharmacopœias except Fr.)

Not Officinal.

BALNEUM ALKALINUM.—Crystals of Carbonate of Soda, 8 or 10 oz. to 60 gallons of Water.

Used in skin diseases as a more effective means of cleansing than by soap.

SODA CAUSTICA.

CAUSTIC SODA.

Hydrate of Soda, NaO,HO; eq. 40.

In hard, greyish-white fragments of cakes, very alkaline and corrosive.

Procured by boiling down solution of Soda rapidly in a silver or clean iron vessel, until there remains a fluid of oily consistence, a drop of which, when removed on a warmed glass rod, solidifies on cooling. Pour the fluid on a clean silver or iron plate, and, as soon as it has solidified, break it in pieces.

Solubility: in water, 1 in 1.

Test.—40 grains dissolved in water leave scarcely any sediment, and require for neutralization about 90 measures of the volumetric solution of Oxalic Acid.

(Not in any Pharmacopœia.)

Preparation.

LIQUOR SODÆ.

Carbonate of Soda, 7; Slaked Lime, 3; Distilled Water, 40: dissolve the carbonate in the water, boil in a clean iron vessel ten minutes, gradually mixing the lime and stirring constantly; decant into a green glass bottle, with air-tight stopper.

Test.—Sp. g. 1·047. 1 fluid ounce requires for neutralization 47 measures of the volumetric solution of Oxalic Acid. It does not effervesce when added to an excess of dilute Hydrochloric Acid, nor give a precipitate with Lime or Oxalate of Ammonia—indicating absence of Carbonic Acid and Lime. When it is heated with an excess of dilute Nitric Acid, and evaporated to dryness, the residue forms with water a clear solution, which is rendered

turbid by Chloride of Barium and by Nitrate of Silver, but not by Ammonia —indicating absence of Magnesia.

100 grains contain 4 grains of Soda.

Medicinal Properties.

Antacid, used in preference to Potash in some stomach diseases.

(Lond. sp. g. 1·061; Dub. 1·056; Fr. Belg. and Pr. Natrum Hydricum Solutum, 1·330 to 1·334, containing 24 per cent.; U. S. 1·071, and contains 5·7 per cent. of Hydrate of Soda; not in Austr.)

Dose.—½ to 1 drm.

SODÆ CHLORATÆ LIQUOR.

SOLUTION OF CHLORINATED SODA.

A mixed solution of Hypochlorite of Soda, NaO,ClO, Chloride of Sodium, and Bicarbonate of Soda.

Carbonate of Soda, 12; Chloride of Sodium, 4; Black Oxide of Manganese, in powder, 3; Sulphuric Acid, 2½; Distilled Water, 44: dissolve the powdered Carbonate of Soda in 36 parts of the water in a glass vessel. Mix the Chloride of Sodium and the Oxide of Manganese, place them in a retort, and add the Sulphuric Acid, previously mixed with 3 parts of the water (cool). Heat the mixture gradually, and pass the evolved Chlorine through a wash-bottle containing 5 parts of the water, and afterwards into the solution of Carbonate of Soda. When the disengagement of Chlorine has ceased, transfer the solution to a stoppered bottle, and keep it in a cool and dark place.

Test.—Sp. g. 1·103. 1 drachm added to a solution of 20 grains of Iodide of Potassium in 4 ounces of water, and acidulated with 2 drachms of Hydrochloric Acid, requires for the discharge of the brown colour which the mixture assumes 40 measures of the volumetric solution of Hyposulphite of Soda. It is not precipitated by Oxalate of Ammonia—indicating absence of Lime.

Test explained under Calx Chlorata.

Medicinal Properties.

Stimulant, antiseptic, and resolvent. Used internally in typhus, scarlatina, etc., indicated by great prostration of strength, fetid evacuations, dry and furred tongue; in dysentery, dyspepsia; also in glandular enlargements, and chronic mucous discharges. Locally, in all affections attended with fœtor, and may be applied, diluted, as a gargle, wash, poultice, or by lint. An excellent application to sore nipples. It is also a powerful disinfecting agent, used in preference to Chloride of Lime, because, when the Chlorine has escaped, the lime is left in a caustic condition, and acts corrosively on carpets, etc.

(Same as Lond.; Dub. uses 12 Chlorinated Lime, 10½ Crystallized Carbonate of Soda, 120 Water—mix and decant; U. S. Belg. Fr. (Liqueur de Labarraque), have 12 Chlorinated Lime, 24 Carbonate of Soda, but a variable quantity of Water; not in others.)

Dose.—20 to 30 minims.

Preparation.

CATAPLASMA SODÆ CHLORATÆ.

Solution of Chlorinated Soda, 1; Linseed Meal, 2; boiling Water, 4: add the Linseed Meal gradually to the water, stirring constantly, then mix the solution of Chlorinated Soda.

(Lond. only.)

SODÆ ET POTASSÆ TARTRAS.

TARTRATE OF SODA AND POTASH.

Syn. ROCHELLE SALT.

$$NaO,KO,C_8H_4O_{10}+8HO;\ \text{eq. } 282.$$

In colourless transparent prisms, or halves of prisms of the right-rhombic order, generally eight-sided; tasting like common salt.

Solubility: in water, 1 in 2.

Test.—Entirely soluble in cold water. 47 grains heated to redness till gases cease to be evolved leave an alkaline residue (carbonates), which requires for neutralization 30 measures of the volumetric solution of Oxalic Acid.

Medicinal Properties.

A mild, cooling purgative, well suited to delicate and irritable stomachs. It is not aperient in small doses, its action being to render the urine alkaline.

(In all the Pharmacopœias; Pr., Natro-Kali Tart. vel Sal Polychristum Seignetti.)

Dose.—2 drms. to 1 oz.

Not Officinal.

SEIDLITZ POWDER.—Rochelle Salt, 2 drms.; Bicarbonate of Soda, 40 grs.: mix. In a separate paper, 37 grains of Tartaric Acid.

SODÆ PHOSPHAS.

PHOSPHATE OF SODA.

$$2NaO,HO,PO_5+24HO;\ \text{eq. } 358.$$

In transparent, colourless, rhombic prisms, terminating by four converging planes, efflorescent, tasting like common salt.

Solubility: in water, 1 in 5.

Test.—Heated to dull redness it loses 63 per cent. of its weight, leaving a residue, which, when dissolved in water, gives, with Chloride of Barium, a precipitate entirely soluble in dilute Nitric Acid: Phosphate of Baryta.

Medicinal Properties.

A mild purgative; from its pure saline taste, well suited to children and persons of delicate stomach. Diuretic in small doses.

(In all the Pharmacopœias; Pr. Natrum Phosphoricum.)

Dose.—½ to 1 oz.

Best given in gruel or weak broth.

Not Officinal

SODÆ HYPOPHOSPHITIS SOLUTIO.—Called Swan's Solution. 3 grs. in each drachm of Distilled Water. 5 lbs. to 100 gallons of water for the ordinary drink of cattle to prevent the Cattle Plague.

SODÆ HYPOSULPHIS.—
SODÆ SULPHIS.— } Both are in clear crystals, soluble in 3 parts of water. *Dose.*—½ to 1 drm. three times a day. Both are useful in cases of yeasty vomitings, sarcina ventriculi, and torula cerevisiæ.

SODÆ SULPHAS.—Glauber's Salt. This salt is now rarely prescribed, but is quite as good a cooling aperient as Epsom Salts.

Solubility in Water, 1 in 3; and measures 3½.

Dose.—½ oz.

Sulphate of Soda, when dried, loses more than half its weight,—16 yields 7.

SODII CHLORIDUM.

SALT.

Syn. SODÆ MURIAS.

NaCl; eq. 58·5.

In small, white, crystalline grains, or transparent cubic crystals.

Solubility of pure Rock Salt in water, 1 in 2¾.

Test.—Free from moisture. The solution is not rendered hazy by Chloride of Barium nor by Phosphate of Soda, after the addition of a mixed solution of Ammonia and Hydrochlorate of Ammonia. The addition of Solution of Ammonia and Hydrochlorate of Ammonia is to produce with Magnesia, if it be present, Ammonio-phosphate of Magnesia.

Medicinal Properties.

In small doses, stimulant, tonic, and anthelmintic; in larger doses, purgative and emetic. It is also antiperiodic in doses of 8 or 12 drachms during the intervals. Locally, as a fomentation to sprains and bruises. As a saltwater-bath (1 pound to 4 gallons), a tonic and excitant of the system, especially in children.

(In all the Pharmacopœias except Pr.)

Dose.—10 grs. to 1 drm. as a tonic; 2 to 4 drms. as a cathartic.

Not Officinal.

DEPILATORY.—Sulphuret of Sodium, 3; Quick Lime in Powder, 10; Starch, 10: mix.

This Sulphuret is proposed by M. Felix Boudet as a substitute for Sulphuret of

Arsenic. When required, mix with a little water, apply it to the skin, and in a few minutes remove it with a wooden knife.

SPIRITUS.

SPIRIT.

All substances which have undergone the vinous fermentation, and in which it is not completely over, contain Alcohol ready formed, which is separated by distillation. The various kinds are distinguished by varieties of flavour and colour. The redistillation of these produces Rectified Spirit.

When spirit is distilled with aromatic vegetables containing volatile oil, the oil rises for the most part with the spirituous vapour and condenses along with it in a state of solution.

The Spirits which were in former Pharmacopœias and omitted from the British are:—Spiritus Ætheris Compositus, Lond.; Ætheris Oleosus, Dub.; Ammoniæ, Edin.; Ammoniæ Fœtidus, Lond. Edin. Dub.; Anisi, Lond.; Carui, Lond. Edin.; Cassiæ, Edin.; Cinnamomi, Lond. Edin.; Lavandulæ Comp. (*see* TINCT. LAVANDULÆ COMP.); Menthæ Viridis, Lond.; Menthæ Pulegii, Lond.; Pimentæ, Lond. Edin.; Vini Gallici, Lond.

The Spirits of the British Pharmacopœia are as follows; the formulæ will be found under the names of the drugs from which they are prepared:—

	Dose.		Proportion of active ingredients to the whole.
Page 16.	30 min.	SPIRITUS ÆTHERIS	1 in 3.
16.	½ drm.	SPIRITUS ÆTHERIS NITROSI.	
23.	20 min.	SPIRITUS AMMONIÆ AROMATICUS.	
36.	1 drm.	SPIRITUS ARMORACIÆ COMP.	1 in 8.
47.	10 min.	SPIRITUS CAJUPUTI (Oil)	1 in 10.
55.	10 min.	SPIRITUS CAMPHORÆ	1 in 10.
70.	10 min.	SPIRITUS CHLOROFORMI	1 in 20.
128.	10 min.	SPIRITUS JUNIPERI (Oil)	1 in 10.
132.	10 min.	SPIRITUS LAVANDULÆ „	1 in 10.
146.	10 min.	SPIRITUS MENTHÆ PIPERITÆ „	1 in 10.
151.	10 min.	SPIRITUS MYRISTICÆ „	1 in 10.
185.	10 min.	SPIRITUS ROSMARINI „	1 in 10.
206.		SPIRITUS TENUIOR (Rect. Sp. 5, Water 3).	
206.	10 min.	SPIRITUS PYROXYLICUS RECTIFICATUS (10 per cent. of water).	
206.		SPIRITUS RECTIFICATUS (16 per cent. of water).	

Alcohol and Alcohol Amylicus will be found in Appendix.

SPIRITUS ÆTHERIS NITROSI.—*See* ÆTHERIS NITROSI SPIRITUS.

SPIRITUS PYROXYLICUS RECTIFICATUS.

RECTIFIED PYROXYLIC SPIRIT.

Hydrated Oxide of Methyle, C_2H_3O,HO, with about 10 per cent. of water; a product of the destructive distillation of wood.

Test.—Sp. g. 0·841 to 0·846. Without action on litmus paper; free from smoky taste. Is not rendered turbid by mixture with water.

Medicinal Properties.

Narcotic, sedative, and anti-emetic. It palliates the cough and lessens the febrile excitement of phthisis.

Dose.—10 to 40 minims.

(Dub. only.)

SPIRITUS RECTIFICATUS.

RECTIFIED SPIRIT.

Alcohol, C_4H_5O,HO, with 16 per cent. of water; obtained by the distillation of the fermented saccharine fluids, and by the rectification of the product, if it be not of proper density.

Test.—Sp. g. 0·838. Remains clear when diluted with Distilled Water. Odour and taste purely alcoholic. 4 ounces with 3 measures of the volumetric solution of Nitrate of Silver, exposed for twenty-four hours to bright light and then decanted from the black powder which has formed, undergoes no further change when again exposed to light with more of the test.

These tests are intended to discover the presence of Fusel Oil, and the quantity of it.

(Lond. and Edin. 0·838; Dub. 0·840; Belg. 0·840 to 0·845; Austr. 0·833 to 0·863; Fr. 0·847 to 0·886: U. S. 0·835: Pr. 0·830 to 834, containing 90 per cent. by measure.)

Medicinal Properties.

Internally a powerful diffusible stimulant. Used in some states of acute disease characterized by excessive debility. Externally, applied diluted to produce cold by evaporation; when evaporation is repressed it acts as a stimulant. Diluted, it forms a lotion for erysipelas, erythema, burns and scalds while the cuticle is entire, and for sprains and recent bruises.

(In all the Pharmacopœias.)

Preparation.

SPIRITUS TENUIOR. PROOF SPIRIT.

Rectified Spirit, 5; Distilled Water, 3: mix.

Sp. g. 0·920.

(In all the Pharmacopœias. Same as Lond. and Dub.; Edin. 0·912; U.S. 0·941; Belg. 0·878; Austr. 0·913; Fr. 0·923; Pr. 0·890 to 0·894, containing 70 per cent. by measure.)

Not Officinal.

MISTURA SPIRITUS VINI GALLICI.—Brandy, 4 oz.; Cinnamon Water, 4 oz.; the yolks of 2 Eggs; Sugar, ½ oz.; Oil of Cinnamon, 2 minims: mix.

A delicious dose in cases of prostration or last stages of fever.

Dose.—½ to 1½ oz.

Stimulant, restorative.

Not Officinal.

STAPHISAGRIA.

The Oil of the seeds, 1 to 7 of Lard, has been successfully used by Balmanno Squire in Prurigo Senilis.

STRAMONIUM.

STRAMONIUM.

The *Datura Stramonium* cultivated in Britain. The leaves dried, collected when the plants are in flower, and the ripe seeds.

Medicinal Properties.

Influences especially the respiratory organs. Much used in asthma; the leaf chiefly by smoking in the shape of cigarettes. The extract and the tincture made of the seeds are used in convulsive coughs and antispasmodics, and as anodynes in gastrodynia and other painful affections. The extract given with success for hay asthma. Like Belladonna, it causes dilatation of the pupil.

(In all the Pharmacopœias; Dub. seeds only.)

Dose.—Of the leaves powdered, 1 gr. and upwards.)

Preparations.

EXTRACTUM.

Pack Stramonium Seeds, coarsely powdered, in a percolator, and add Proof Spirit until the seeds are exhausted. Distil off the spirit, and evaporate the residue by a water-bath to a proper consistence.

(Lond. and Edin.; U.S. from leaves; Belg. and Fr. both extracts; not in others.)

Dose.—$\frac{1}{4}$ gr., gradually increasing.

TINCTURA.

Stramonium Seeds, bruised, 1; Proof Spirit, 8: macerate forty-eight hours with 6 of the spirit, agitating occasionally; pack in a percolator, let it drain, and pour on the remaining spirit. When it ceases to drop, press, filter, and add spirit to make 8. =(1 in 8).

(Dub. U.S. Austr. Belg. Fr. from leaves; not in others.)

Dose.—10 to 20 minims.

STRYCHNIA.

STRYCHNIA.

An alkaloid, $C_{42}H_{22}N_2O_4$; eq. 334; obtained from Nux Vomica.

In right square octahedrons or prisms, colourless and inodorous.

Solubility in water 1 in 5760: insoluble in Alcohol and Ether.

Test.—Not coloured by Nitric or Sulphuric Acid—indicating absence of Brucia. Leaves no ash when burned with free access of air.

Dose.—$\frac{1}{24}$ to $\frac{1}{12}$ gr., gradually and slowly increasing.

Divide by trituration with Sugar of Milk before making into pills.

Medicinal Properties.

Similar to those of Nux Vomica; its chief use however being in the treatment of paralysis, especially in cases of lead-poisoning.

(In all the Pharmacopœias; Pr. has Nitrate only.)

Preparation.

LIQUOR.

Strychnia in crystals, 4 grs.; dilute Hydrochloric Acid, 6 minims; Rectified Spirit, 2 drms.; Distilled Water, 6 drms.: mix the Hydrochloric Acid with 4 drachms of the water, and dissolve the Strychnia in it by means of heat; then add the spirit and the remainder of the water. =(1 in 120).

2 drachms contain 1 grain of Strychnia.

(Belg. 1 in 200; not in others.)

Dose.—5 to 10 minims = $\frac{1}{24}$ or $\frac{1}{12}$ gr. of Strychnia.

STYRAX PRÆPARATUS.

PREPARED STORAX.

A balsam prepared from the bark of the *Liquidambar orientale* in Asia Minor, purified by means of Rectified Spirit and straining.

(In all the Pharmacopœias except Dub. and Pr.)

Medicinal Properties.

Stimulant and expectorant. Similar in action to the Balsams of Peru and Tolu. Recommended also in gonorrhœa and leucorrhœa; said to be equal to Copaiba, and less disagreeable.

Dose.—10 to 20 grs. twice a day, gradually increasing.

Contained in Tinctura Benzoini Comp.

SUCCI.

JUICES.

Juices expressed from fresh medicinal plants, and preserved by the addition of Spirit, were introduced by the Author in 1835 (Pharm. Journ. vol. i.). It was thought that by thus avoiding the action of air, which leaves (for Tincture) are subjected to whilst drying, or the action of both air and heat as when Extracts are prepared, the properties of the plant would be preserved unimpaired.

They were found in practice superior to the Tinctures, and have been since employed, especially by practitioners in private practice, to the present time. Physicians will doubtless satisfy themselves of the value of these medicines now they have found a place in the British Pharmacopœia.

The following have been introduced into the British Pharmacopœia, the formulæ for which will be found under the names of the drugs from which they are prepared:—

Page 79. SUCCUS CONII.
194. SUCCUS SCOPARII.
214. SUCCUS TARAXACI.

These consist of 3 parts of Juice and 1 of Rectified Spirit.

Juices which are not officinal are enumerated in the Index.

SULPHUR.

SULPHUR.

S; eq. 16.

Sulphur occurs native, and is found in masses or in the powdery form mixed with various impurities. It is abundant in volcanic countries, as in Sicily, Naples, and the Roman States. It exists largely in this country in combination with Iron and Lead. It readily sublimes, and when washed is called washed or sublimed Sulphur.

SULPHUR SUBLIMATUM.

SUBLIMED SULPHUR.

A slightly gritty powder of a fine greenish-yellow colour; without taste and without odour until heated.

Test.—Entirely volatilized by heat, does not redden litmus paper—indicating absence of sulphurous and sulphuric acids. Solution of Ammonia, agitated with it and filtered, does not on evaporation leave any residue.

Insoluble in water. Soluble in Oils and Turpentine with heat.

Medicinal Properties.

Laxative, diaphoretic, and resolvent; evidently passes off by the pores of the skin. It is chiefly employed in hæmorrhoidal affections, chronic rheumatism; externally for skin diseases, especially scabies. Sometimes used as a dentrifice.

(In all the Pharmacopœias.)

Dose.—As a stimulant, from 10 grains upwards; as a laxative, in treacle or milk, 30 to 60 grs. or more.

Preparations.

CONFECTIO SULPHURIS.

Sublimed Sulphur, 4; Acid Tartrate of Potash, 1; Syrup of Orange Peel, 4: triturate. =(1 in 2¼).

(Same strength as Dub.; not in others.)

Dose.—2 to 4 drms.

UNGUENTUM SULPHURIS.

Sublimed Sulphur, 1; Prepared Lard, 4: mix. =(1 in 5).

(Same as Edin. Dub. and Belg.; Lond. and U. S. 1 in 3; Fr. 1 in 4; Austr. Ung. Sulphuratum, Sulphur and Sulphate of Zinc, of each 1, Lard 8—mix; not in others.)

Not Officinal.

CHELSEA PENSIONER.—Sulphur, 6; Mustard, 6; Powdered Guaiacum, 3; Rhubarb, 1½; Nitre, 1½; mix. Honey or treacle sufficient to make it into an Electuary.

Dose.—A teaspoonful every alternate evening.

UNGUENTUM SULPHURIS IODIDI.—Iodide of Sulphur, 1; Lard, 16; mix. An excellent remedy for acne punctata and other eruptions of the skin.

SULPHUR PRÆCIPITATUM.

PRECIPITATED SULPHUR.

A greyish-yellow soft powder, free from grittiness, and with no smell of Sulphuretted Hydrogen.

Test.—Entirely volatilized by heat: under the microscope it is seen to consist of opaque globules without any admixture of crystalline matter; otherwise corresponds with Sublimed Sulphur.

Medicinal Properties.

Similar to those of Sulphur Sublimatum, only more active.

(In all the Pharmacopœias except Edin. and Dub.)

Not Officinal.

SUMBUL.

SUMBUL.

The roots of the *Jalamanski*, or Musk Root. Imported from India.

In slices of two to four inches in diameter, possessing the odour of musk, which it long retains.

Medicinal Properties.—A nervous stimulant in low typhoid fevers, and in asthenic cases of dysentery and diarrhœa, and malignant cholera. Valuable in delirium tremens.

Preparation.

TINCTURA.

Sumbul, bruised fine, 1; Rectified Spirit, 8: digest seven days and filter.

Dose.—15 to 20 minims.

SUPPOSITORIÆ.

Page 12. SUPPOSITORIA ACIDI TANNICI.
148. SUPPOSITORIA MORPHIÆ.

Suppositories, not officinal, are enumerated in the Index.

SYRUPI.

SYRUPS.

Syrups are apt to ferment or mould when made with too little sugar, and to crystallize when too concentrated; to avoid these inconveniences which have arisen from former instructions for the preparation of this class of medicines, the British Pharmacopœia directs that the product of each syrup shall be made up to one constant weight, thereby ensuring uniformity of consistence, which is perhaps as good a practical guide as taking the specific gravity, when cooled to 60° F. The Dublin Pharmacopœia directed that in the case of simple syrup the specific gravity should be given, namely, 1·330, and this gravity is a very proper one for ordinary temperatures, but it must be understood that if the syrup be exposed to a very low temperature, say 40° F., it may crystallize. It keeps perfectly well, however, at a range of temperature from 50° upwards. Of course the more refined the sugar, the cleaner and lighter in colour will be the syrup, but even with the best sugar a little scum will form on the surface, which must be removed; when straining is required, it must be done whilst the syrup is hot, and through flannel, returning the first runnings, if not quite bright, into the bag. Syrups keep best in full bottles; when a bottle has remained half empty a short time, although of the right density at first, it is very apt to crystallize; and when kept in large jars, say of from 8 to 10 gallons, with loose covers, the sides are generally studded with crystals, and the syrup is thus frequently rendered too weak to keep when sent out. To prevent fermentation, for instance, in the Syrup of Poppies, several additions have been proposed to be made, but they have not succeeded because, in our former processes for preparing the syrup, the matter which is the cause of the fermentation was not removed; in the new process Rectified Spirit is employed for that purpose, and the result is that Syrup of Poppies, which in the summer frequently fermented so much that it rushed out of the bottles, now remains unaltered. It is, however, necessary that no more spirit be added than is ordered, for a larger quantity is very apt to cause deposition of crystals.

In making simple syrup from any sugar requiring white of egg to render it perfectly bright, the egg should be beaten into a froth, and not added till the syrup has become hot enough to coagulate it; it should then be poured quickly in, and well stirred up with the syrup; the air enclosed in the froth causes the coagulated albumen to rise to the surface, so that it may be effectually removed by skimming, whereas, if it is mixed with the syrup before it is heated, the air escapes as it warms up, and a good part of the albumen does not rise; still, by straining the syrup, it may be made bright.

Syrup of Lemon Juice, if kept long, deposits grape sugar, and should therefore be made in smaller quantity, and more frequently than the other syrups. The Syrups of Orange and Ginger are now made from their tinctures, which give just as good a flavour, and produce much brighter syrups, besides the advantage of avoiding the starch and other matters which were contained in the former syrups. The Syrup of Rose is now made with the red roses. The Syrup of Senna, which was previously the exception of the syrups, being prepared with treacle, is now made with refined sugar like the rest, and being treated like the Poppies, no longer ferments; it is very

palatable and sufficiently active. The Syrup of Tolu is made by the London process. Syrup of Violets and others of little medicinal value have not been admitted into the British Pharmacopœia.

A good and expeditious method of making Syrup of Iodide of Iron is introduced; still the Iodide is not entirely protected by the sugar from change. The only way in which this can be effectually done is by a solution in water having a coil of iron-wire reaching throughout the whole length of the column, as originally proposed by the Author.

The syrups of former Pharmacopœias omitted from the British are the following:—Syrupus Aceti, Edin.; Acidi Citrici, Dub.; Althææ, Lond. Edin.; Cocci, Lond.; Croci, Lond. Edin. Dub.; Ipecacuanhæ, Edin.; Morphiæ Acetatis, Dub.; Morphiæ Muriatis, Dub.; Rhamni, Lond. Edin.; Rosæ (Centifoliæ), Lond. Edin.; Sarsæ, Lond. Edin.; Violæ, Lond. Edin.

The new introductions are:—Syrupus Aurantii Floris; Ferri Phosphatis.

The following are the syrups of the British Pharmacopœia, the formulæ for which will be found under the names of the drugs from which they are prepared:—

Dose.		
	SYRUPUS.—*See* SACCHARUM	Sugar 1 in 1⅛
2 drms.	SYRUPUS AURANTII	Tinct. 1 in 8.
1 drm.	SYRUPUS AURANTII FLORIS	1 in 6¾
20 min.	SYRUPUS FERRI IODIDI, 4½ grains in each drachm.	
1 drm.	SYRUPUS FERRI PHOSPHATIS, 1 grain in each drachm.	
1 drm.	SYRUPUS HEMIDESMI	1 in 8.
1 drm.	SYRUPUS LIMONIS	Juice 1 in 2.
	SYRUPUS MORI	Juice 1 in 2.
1 drm.	SYRUPUS PAPAVERIS	Capsules 1 in 2¼.
	SYRUPUS RHŒADOS	Petals 1 in 3½.
	SYRUPUS ROSÆ GALLICÆ	Petals 1 in 17½.
1 drm.	SYRUPUS SCILLÆ	1 in 17.
1 drm.	SYRUPUS SENNÆ	1 in 2.
2 drms.	SYRUPUS TOLUTANUS.—*See* BALS. TOLU.	
1 drm.	SYRUPUS ZINGIBERIS	Tinct. 1 in 8.

TABACUM.

LEAF TOBACCO.

The dried leaves of the *Nicotiana Tabacum*, cultivated in America.

In large, mottled brown, ovate or lanceolate, acuminate leaves, bearing numerous short glandular hairs, having a peculiar heavy odour and nauseous-bitter acrid taste.

Test.—Not manufactured.

From the leaf of the plant are derived:—

NICOTIN, a nearly colourless fluid, sp. g. 1·048, of an acrid, burning taste,

inflammable, miscible with water, ether, alcohol, and the fixed oils; capable of being formed into crystalline salts; its formulæ is $N_2C_{20}H_{14}$, eq. 162. To this alkaloid Tobacco owes its activity. Nicotin is a powerful poison.

NICOTIANIN, a fatty substance, having the smell of tobacco smoke, with an aromatic and somewhat bitter taste.

Medicinal Properties.

A powerful sedative, especially affecting the heart, frequently causing great depression. Narcotic and emetic. Smoked, it is sedative and expectorant in various cases of asthma. Occasionally used as snuff for affections of the head. It is dangerous on account of its poisonous properties.

(Lond. Edin. Dub. U.S. Pr. and Fr.; not in others.)

Preparation.

ENEMA.

Leaf Tobacco, 20 grs.; boiling Water, 8 oz.: infuse half an hour, and strain.

For one enema.

(Same as Lond. Edin. Dub.; not in others.)

Used in strangulated hernia, obstinate constipation, and retention of urine.

TAMARINDUS.

TAMARIND.

The preserved pulp of the fruit of the *Tamarindus Indica*, imported from the West Indies.

Test.—A piece of bright iron left in contact with the pulp for an hour does not exhibit any deposit of copper.

Medicinal Properties.

Refrigerant and slightly laxative. Infused with water, forms a cooling drink in febrile affections.

(In all the Pharmacopœias, except Austr. Pr.)

Dose.—½ oz. and upwards.

Contained in Confectio Sennæ.

TARAXACUM.

DANDELION ROOT.

The fresh roots of the *Taraxacum Dens-Leonis*, gathered between September and February from meadows and pastures in Britain.

Much difference of opinion exists as to the proper time of taking up the root. Some think that the winter, when it yields the thick albuminous juice, is the best; others prefer the thin and bitter juice yielded by the root in the early summer. The author inclines to the former opinion, and has so expressed himself in an article furnished to Mr. Brande, and inserted by him

in his 'Materia Medica.' Observations made throughout the year are there given. Juice taken from roots dug up in November, before any frost appeared, had a specific gravity 1·080; 28 pounds of root yielded 7 pounds of juice, from which, when heated to 212° F., besides 4 ounces of insoluble matter, it left on evaporation 28 ounces of extract. This is not a correct average, for when in the highest perfection—

100 of root yield 30 of juice = 8 of extract. 100 of root, when dried, weigh 25.

Medicinal Properties.

A mild laxative, acting specially on the liver. In dropsy, arising from obstruction of the liver, it is given in combination with purgatives.

(In all the Pharmacopœias; Fr. Pissenlit.)

Preparations.

DECOCTUM.

Dried Dandelion Root, sliced and bruised, 1; Distilled Water, 30: boil ten minutes, and strain. The produce should measure 20. =(1 in 20).

(Lond. fresh root; Edin. and Belg. have provided for the varying con ition of the root at different seasons by ordering the whole plant in a fresh state to be used; not in others.)

Dose.—2 to 4 oz.

EXTRACTUM.

Crush fresh Dandelion Root, press out the juice, and allow it to deposit; heat the clear liquor to 212° F., and maintain the temperature for ten minutes; then strain and evaporate by a water-bath at a temperature not exceeding 160° to a proper consistence.

100 pounds of fresh root yield 30 pounds of juice = 8 pounds of extract.

Dose.—5 to 15 grs.

(Lond. Edin. U. S. from fresh root; Austr. Belg. and Pr. whole plant; not in others.)

The Lond. and Edin. processes were far inferior to the present; the product was much injured by the tedious evaporation.

SUCCUS.

Bruise Dandelion Root in a stone mortar, press out the juice, and to every 3 measures of juice add 1 of Rectified Spirit; set aside seven days and filter.

Dose.—2 to 4 drms.

A new preparation.

(Belg. only, but the juice is merely coagulated and strained; no spirit is used.)

TEREBINTHINA CANADENSIS.

CANADA BALSAM.

The Turpentine obtained from the stem of the *Abies balsamea* by incision, in Canada.

(Edin. U. S.; not in others.)

TEREBINTHINÆ OLEUM.

OIL OF TURPENTINE.

The oil distilled from the Turpentine which exudes from the *Pinus palustris* or *P. Pinaster*, imported from America and France.

Medicinal Properties.

Stimulant, diuretic, occasionally diaphoretic, anthelmintic; in large doses purgative, sometimes causing nausea, vomiting, and intoxication. It especially affects the kidneys, and the mucous membrane of the genito-urinary organs. Antispasmodic in hysterical affections. Externally rubefacient; employed as a liniment in chronic inflammation.

(In all the Pharmacopœias.)

Dose.—10 to 30 minims; as an anthelmintic, 2 to 6 drms. May be given in Mistura Amygdalæ.

1 drm. of Mucilage, with diligent trituration, renders ½ drm. of Oil of Turpentine emulsive, with 1 oz. of Distilled Water.

Preparations.

CONFECTIO TEREBINTHINÆ.

Oil of Turpentine, 1; Liquorice Powder, 1; Clarified Honey, 2: mix. =(1 in 4).

(Same as Dub.; not in others.)

Dose.—1 to 4 drms. daily; for Tænia, 2 to 4 oz.

ENEMA TEREBINTHINÆ.

Oil of Turpentine, 1 oz.; Mucilage of Starch, 15 oz.: mix for 1 enema.

(Same strength as Dub.; Lond. and Edin.; not in others.)

LINIMENTUM TEREBINTHINÆ.

Oil of Turpentine, 5; Ointment of Resin, 8: melt and mix. =(1 in 2⅔).

A soft solid mass.

(Same as Dub.; Edin. 1 in 2; Lond. 1 in 1¼, nearly; U.S. 1 in 2½; Belg. 9½ in 10; not in others.)

LINIMENTUM TEREBINTHINÆ ACETICUM.

Oil of Turpentine, 1; Acetic Acid, 1; Liniment of Camphor, 1: mix. =(1 in 3).

A new preparation. (St. John Long's celebrated liniment.)

UNGUENTUM TEREBINTHINÆ.

Oil of Turpentine, 1; Resin, in powder, ⅛; Yellow Wax, ½; Prepared Lard, ½: mix with heat. =(1 in 2⅛)

(Austr. only, and differs from this in composition.)

THERIACA.

TREACLE.

Syn. SACCHARI FÆX, *Lond.*

The uncrystallized residue of the refining of Sugar. Golden Syrup of commerce.

Sp. g. about 1·400.

Test.—Nearly free from empyreumatic odour or flavour.

Medicinal Properties.

Demulcent, nutrient, and slightly laxative. A favourite condiment in pharmacy, chiefly employed to make pills, for which, on account of its retentiveness of moisture, it is well adapted,

(Lond. Edin. and Dub.; not in others.)

Contained in Pil. Assafœt. Comp., Pil. Rhei Comp., Pil. Scillæ Comp.

THUS AMERICANUM.

COMMON FRANKINCENSE.

The concrete Turpentine of the *Pinus Tæda* and *P. palustris*, from the Southern States of North America.

The true Thus is the *Pix Burgundica* from the *Abies excelsa*.

(Lond. and Dub. only.)

Medicinal Properties.

Used externally as a stimulant.

Contained in Emplastrum Ferri, Empl. Galbani, Empl. Opii, Empl. Picis.

TINCTURÆ.

TINCTURES.

Many of these have been directed by the British Pharmacopœia to be made by percolation, and as this operation imposes certain conditions to be complied with in order that it may be efficiently performed, directions on the subject will be found at Appendix C.

Some changes have been made in the strength of the Tinctures; for example, Tinct. Aconiti and Tinct. Belladonnæ have been reduced, whilst others have been strengthened, as Tinct. Calumbæ, Cardamomi, Myrrhæ, Rhei, Sennæ, Serpentariæ, Tolutana, and Zingiberis.

Stronger preparations of Aconite and Belladonna will be found classed with the Liniments.

The Tinctures of former Pharmacopœias omitted from the British are the following:—Tinctura Aloes Composita, Lond.; Aloes et Myrrhæ, Edin.; Ammoniæ Composita, Lond.; Camphoræ, Lond. Edin. Dub. (*see* Sp. Camphoræ); Cardamomi, Edin.; Cassiæ, Edin.; Castorei Ammoniata, Edin.; Cinchonæ Pallidæ, Lond. Edin. Dub.; Cinnamomi Composita, Lond. Edin. Dub.; Colchici Composita, Lond.; Conii, Lond. Edin.; Cubebæ, Lond. Dub.; Cuspariæ, Edin.; Ergotæ Ætherea, Lond.; Ferri Acetatis, Dub.; Ferri Ammonio-Chloridi, Lond.; Guaiaci, Edin. Dub.; Hellebori, Lond.; Iodinii (Simplex), Edin.; Lactucarii, Edin.; Lupulinæ, Dub.; Matico, Dub. Opii Ammoniata, Edin.; Quassiæ, Edin.; Quassiæ Composita, Edin.; Rhei et Aloes, Edin.; Rhei et Gentianæ, Edin.

The following names have been changed:—Tinctura Catechu Composita, Lond. Edin. Dub., now Tinct. Catechu; Tinctura Iodinii Composita, Lond. Edin. Dub., now Tinctura Iodi; Tinct. Opii Camphorata, Edin. Dub., now Tinctura Camphoræ cum Opio; Tinct. Rhei Composita, Lond. Dub., now Tinctura Rhei.

The new Tinctures introduced are:—Tinctura Arnicæ, Conii Fructus, Nucis Vomicæ, Sabinæ, Senegæ.

The following are the Tinctures of the British Pharmacopœia, the formulæ for which will be found under the names of the drugs from which they are prepared; all are made with Proof Spirit unless otherwise stated.

Dose.		Proportion of active ingredients in the mass.	
10 min.	TINCTURA ACONITI	1 in 8	Rect. Sp.
1½ drm.	TINCTURA ALOES	1 in 40.	
2 drms.	TINCTURA ARNICÆ	1 in 20	Rect. Sp.
½ drm.	TINCTURA ASSAFŒTIDÆ	1 in 8.	Rect. Sp.
2 drms.	TINCTURA AURANTII	1 in 10.	
5 min.	TINCTURA BELLADONNÆ	1 in 20.	
½ drm.	TINCTURA BENZOINÆ COMP.	1 in 10	Rect. Sp.
1 drm.	TINCTURA BUCCO	1 in 8.	
½ drm.	TINCTURA CALUMBA	1 in 8.	
½ drm.	TINCTURA CAMPHORÆ CUM OPIO Opium 1, Benzoic Acid 1, Camphor ¾, in 240.		
5 min.	TINCTURA CANNABIS INDICÆ	1 in 20	Rect. Sp.
5 min.	TINCTURA CANTHARIDIS	1 in 80.	
10 min.	TINCTURA CAPSICI	1 in 27	Rect. Sp.
½ drm.	TINCTURA CARDAMOMI COMP.	1 in 80.	
½ drm.	TINCTURA CASCARILLÆ	1 in 8.	
½ drm.	TINCTURA CASTOREI	1 in 20	Rect. Sp.
1 drm.	TINCTURA CATECHU	1 in 8.	
10 min.	TINCTURA CHIRATÆ	1 in 8.	
1 drm.	TINCTURA CINCHONÆ COMP.	1 in 10.	
1 drm.	TINCTURA CINCHONÆ FLAVÆ	1 in 5.	
1 drm.	TINCTURA CINNAMOMI	1 in 8.	
30 min.	TINCTURA COCCI	1 in 8.	
15 min.	TINCTURA COLCHICI SEMINIS	1 in 8.	
½ drm.	TINCTURA CONII FRUCTUS	1 in 8.	
½ drm.	TINCTURA CROCI	1 in 20.	
10 min.	TINCTURA DIGITALIS	1 in 8.	
15 min.	TINCTURA ERGOTÆ	1 in 4.	
10 min.	TINCT. FERRI PERCHLORIDI Liquor,	1 in 4	Rect. Sp.
½ drm.	TINCTURA GALLÆ	1 in 8.	
1 drm.	TINCTURA GENTIANÆ COMP.	1 in 13⅓.	
½ drm.	TINCTURA GUAIACI AMMONIATA	1 in 5	Arom. Sp. Ammon.
15 min.	TINCTURA HYOSCYAMI	1 in 8.	

Dose.		Proportions of active ingredients in the mass.	
10 min.	TINCTURA IODI . Iodine 1, Iodide Potass. ½,	in 40	Rect. Sp.
½ drm.	TINCTURA JALAPÆ	1 in 8.	
½ drm.	TINCTURA KINO	1 in 10	Rect. Sp.
1 drm.	TINCTURA KRAMERIÆ	1 in 8.	
½ drm.	TINCTURA LAVANDULÆ COMP. (Oil)	1 in 213	Rect. Sp.
1 drm.	TINCTURA LIMONIS	1 in 8.	
½ drm.	TINCTURA LOBELIÆ	1 in 8.	
½ drm.	TINCTURA LOBELIÆ ÆTHEREA . .	1 in 8	Sp. Ether.
½ drm.	TINCTURA LUPULI	1 in 8.	
½ drm.	TINCTURA MYRRHÆ	1 in 8	Rect. Sp.
10 min.	TINCTURA NUCIS VOMICÆ	1 in 10	Rect. Sp.
15 min.	TINCTURA OPII	1 in 13⅓.	
2 drms.	TINCTURA QUINIÆ COMP.	1 in 60	Tr. Orange.
2 drms.	TINCTURA RHEI	1 in 10.	
15 min.	TINCTURA SABINÆ	1 in 8.	
15 min.	TINCTURA SCILLÆ	1 in 8.	
1 drm.	TINCTURA SENEGÆ	1 in 8.	
2 drms.	TINCTURA SENNÆ	1 in 8.	
½ drm.	TINCTURA SERPENTARIÆ	1 in 8.	
10 min.	TINCTURA STRAMONII	1 in 8.	
5 min.	TINCTURA TOLUTANA.—*See* BALSAM .	1 in 8	Rect. Sp.
1 drm.	TINCTURA VALERIANÆ	1 in 8.	
½ drm.	TINCTURA VALERIANÆ AMMONIATA	1 in 8	Arom. Sp. Ammon.
10 min.	TINCTURA ZINGIBERIS	1 in 8	Rect. Sp.

Tinctures that are not officinal are enumerated in the Index.

TRAGACANTHA.

TRAGACANTH.

A gummy exudation from the stem of the *Astragalus verus*, collected in Asia Minor.

Sparingly soluble in cold water.

Test.—After maceration in cold water, the fluid portion is not precipitated by the addition of Rectified Spirit—indicating absence of Acacia Gum; and the gelatinous mass, when boiled and cooled, is not turned deep blue by Tincture of Iodine—indicating absence of Starch.

Medicinal Properties.

Demulcent. Used for the suspension of heavy insoluble powders in liquids; for this purpose a quantity equal to that of the powder may be used.

(In all the Pharmacopœias.)

Dose.—Of the powder, 20 grs. upwards.

Preparation.

MUCILAGO.

Tragacanth, 100 grs.; boiling Distilled Water, 10 oz.: macerate twenty-four hours, then triturate and express through calico. =(1 in 48).

(Edin. 1 in 36; Austr. and Belg. 1 in 84; Austr. M. Spissa 1 in 120; Fr. 1 in 8; U. S. 1 in 16; not in others.)

Dose.—1 oz. upwards.

One part of Tragacanth gives more viscosity to water than 25 parts of Gum Arabic.

PULVIS COMPOSITUS.

Tragacanth in powder, 1; Gum Arabic in powder, 1; Starch, 1; Refined Sugar in powder, 3: rub well together. =(1 in 6).

(Lond. and Edin. 1 in 5; not in others.)

Dose.—10 to 60 grs.

Not Officinal.

TRITICUM REPENS.

DECOCTUM.

Root, 1 oz.; Water, 20 oz.: boil ten minutes, and strain when cold.

Dose.—4 oz. to 8 oz. three times a day for mucous discharge from the bladder.

TROCHISCI.

LOZENGES.

Lozenges are especially Edinburgh preparations, the London and Dublin Pharmacopœias not containing any of them.

The following Trochisci are omitted from the British Pharmacopœia:—Trochisci Acaciæ, Acidi Tartarici, Cretæ, Glycyrrhizæ, Lactucarii, Magnesiæ, Sodæ Bicarbonatis.

The following are newly introduced: Trochisci Acidi Tannici, Bismuthi, Catechu.

The following are the Trochisci of the British Pharmacopœia:

		Quantity of the active ingredient contained in each lozenge.
Page 12.	TROCHISCI ACIDI TANNICI	$\frac{1}{2}$ grain.
44.	TROCHISCI BISMUTHI	2 grains.
64.	TROCHISCI CATECHU	$1\frac{1}{8}$ grain.
148.	TROCHISCI MORPHLÆ . . (Hydrochlorate)	$\frac{1}{16}$ grain.
149.	TROCHISCI MORPHLÆ ET IPECAC. „	$\frac{1}{16}$ and $\frac{1}{12}$ gr. Ipecac.
158.	TROCHISCI OPII . . . . . (Extract.)	$\frac{1}{10}$ grain.

Troches that are not Officinal are enumerated in the Index.

ULMUS.

ELM BARK.

The dried inner bark of the *Ulmus campestris*, deprived of its outer layer; from trees indigenous to and cultivated in Britain.

Medicinal Properties.

Bitter, demulcent, slightly tonic, astringent, and diuretic. Used in herpetic eruptions.

(Lond. and U. S.; not in others.)

Preparation.

DECOCTUM.

This preparation is mentioned in the Materia Medica of the British Pharmacopœia, but as it is not found among the preparations, the Author has copied the formula from the London Pharmacopœia.

Elm Bark, fresh, bruised, 1; Distilled Water, 16: boil down to 8 and strain. =(1 in 8).

(Lond. only.)

Dose.—4 to 6 oz. three or four times daily.

UNGUENTA.

OINTMENTS.

All the Cerates are now merged into this group. Every one must have felt the inconvenience of referring from one part of the Pharmacopœia to another for Cerates and Ointments, and there appeared no reason why they should not all be designated Ointments, and classed together.

The Cerates of former Pharmacopœias omitted from the British Pharmacopœia are:—Ceratum, Lond.; Ceratum Calaminæ, Lond. and Edin.; Cantharidis, Lond.; Cetacei, Lond.; Hydrargyri Comp. Lond.; Plumbi Acetatis, Lond.; Plumbi Comp. Lond., now Ung. Plumbi Subacetatis, and made with White Wax; Resinæ, Lond.; Saponis Comp. Lond.; Simplex, Edin.

The Ointments omitted are:—Unguentum Æruginis, Edin.; Cupri Subacetatis, Edin.; Infusi Cantharidis, Edin.; Ceræ Albæ, Dub.; Conii, Lond.; Hydrargyri Iodidi, Lond.; Hydrargyri Nitratis Mitius, Lond.; Opii, Lond.; Picis, Lond.; Picis Liquidæ, Lond. Edin. Dub.; Plumbi Acetatis, Edin. Dub.; Plumbi Comp. Lond.; Plumbi Iodidi, Lond. Dub.; Sambuci, Lond.; Sulphuris Comp. Lond.; Sulphuris Iodidi, Lond.

The following are new preparations:—Unguentum Aconitiæ, Atropiæ, Calomelanos, Gallæ, Terebinthinæ, Veratriæ.

The following are the Ointments of the British Pharmacopœia, the formulæ for which will be found under the names of the drugs from which they are prepared:—

		Proportion of active ingredients in the mass.
Page 13.	UNGUENTUM ACONITIÆ	1 in 60.
32.	UNGUENTUM ANTIMONII TARTARATI	1 in 5.
38.	UNGUENTUM ATROPIÆ	1 in 60.
43.	UNGUENTUM BELLADONNÆ (Extract)	1 in 6½.
52.	UNGUENTUM CALOMELANOS	1 in 6½.
57.	UNGUENTUM CANTHARIDIS	1 in 8.
67.	UNGUENTUM CETACEI	1 in 5.
74.	UNGUENTUM COCCULI	1 in 6½.
82.	UNGUENTUM CREASOTI	1 in 9.
90.	UNGUENTUM ELEMI	1 in 5.
110.	UNGUENTUM GALLÆ	1 in 6½.
110.	UNGUENTUM GALLÆ CUM OPIO (Opium)	1 in 15.
117.	UNGUENTUM HYDRARGYRI	nearly 1 in 2.
121.	UNGUENTUM HYDRARGYRI AMMONIATI	1 in 8.
118.	UNGUENTUM HYDRARGYRI IODIDI RUBRI	1 in 28.
119.	UNGUENTUM HYDRARGYRI NITRATIS (Mercury)	1 in 15.
120.	UNGUENTUM HYDRARGYRI OXIDI RUBRI	1 in 8.
126.	UNGUENTUM IODI COMP. (Iodine)	1 in 31.
166.	UNGUENTUM PLUMBI CARBONATIS	1 in 8.
167.	UNGUENTUM PLUMBI SUBACETATIS (Solution of Subacetate of Lead)	1 in 5¾.
169.	UNGUENTUM POTASSII IODIDI	nearly 1 in 8½.
180.	UNGUENTUM RESINÆ	1 in 3½.
186.	UNGUENTUM SABINÆ	nearly 1 in 3¾.
65.	UNGUENTUM SIMPLEX.	
209.	UNGUENTUM SULPHURIS	1 in 5.
215.	UNGUENTUM TEREBINTHINÆ (Oil)	1 in 2½.
223.	UNGUENTUM VERATRIÆ	1 in 60.
227.	UNGUENTUM ZINCI OXIDI	1 in 6½.

Ointments which are not officinal are enumerated in the Index.

UVA URSI.

BEARBERRY LEAVES.

The dried leaves of the *Arctostaphylos Uva-Ursi*, from indigenous plants.

Test.—Leaves not dotted beneath, nor toothed on the margin.

(Lond. Edin. Dub. U. S. Belg.; not in others.)

Medicinal Properties.

Astringent and tonic, with a direct influence on the kidneys and urinary organs. Used in menorrhagia and diabetes, also in chronic dysentery.

Dose.—Of the powdered leaf, 10 to 30 grs.

Preparation.

INFUSUM.

Bearberry Leaves, 1; boiling Distilled Water, 20: infuse two hours, and strain. =(1 in 20).

(Not in any other Pharmacopœia; Lond. Edin. and Dub. U.S., Decoctum.)

A new preparation.

Dose.—1 to 2 oz.

UVÆ.

RAISINS.

The ripe fruit of the *Vitis vinifera*, dried in the sun or with artificial heat. Imported from Spain.

Medicinal Properties.

Nutritious and demulcent. Principally used as a flavouring agent.

(In all the Pharmacopœias, except Austr. and Pr.)

Contained in Tinct. Cardam. Comp., Tinct. Sennæ.

VALERIANA.

VALERIAN.

The root of the *Valeriana officinalis*, indigenous and cultivated in Britain, collected in autumn and dried; that from wild plants growing on dry soil preferred.

Medicinal Properties.

It is a nervous stimulant and antispasmodic. Useful in hysteria and nervous diseases; also in chorea and epilepsy; and as an adjunct to tonics.

(In all the Pharmacopœias.)

Dose.—20 to 30 or 40 grs. of the powder.

Preparations.

INFUSUM.

Valerian, bruised, 120 grs.; boiling Distilled Water, 10 oz.: infuse one hour, and strain. =(1 in 40).

(Same as Lond.; Dub. 1 in 36; U.S. 1 in 30; Fr. 1 in 125, Tisane; not in others.)

Dose.—1 to 2 oz.

TINCTURA.

Valerian, bruised, 1; Proof Spirit, 8: macerate the Valerian forty-eight hours with 6 of the spirit, agitating occasionally; pack in a percolator, let it drain, pour on the remainder of the spirit; when it ceases to drop, press and filter, washing the marc with spirit to make up 8. =(1 in 8).

(Same as Lond. Edin. Dub.; Austr. and U.S. 1 in 7.; Belg. and Pr. 1 in 5½; Fr. 1 in 4½.)

Dose.—1 to 3 drms.

TINCTURA AMMONIATA.

Valerian, bruised, 1; Aromatic Spirit of Ammonia, 8: macerate the Valerian seven days, filter, and add spirit to make 8. =(1 in 8).

(Same as Lond. and Edin. Tinct. Valerianæ Comp.; Belg. with liquid Ammonia and Alcohol, 1 in 6½; U. S. 1 in 7; not in others.)

Dose.—½ to 1 drm.

VERATRIA.

VERATRIA.

An alkaloid, $C_{64}H_{52}N_2O_{16}$, obtained from Cevadilla, not quite pure; eq. 592.

Pale grey, amorphous, pulverulent masses, powerfully irritating the nostrils, strongly and persistently bitter, and highly acrid.

Solubility: scarcely soluble in cold water; in boiling water, 1 in 1000; in Rectified Spirit, 1 in 11; in Ether, 1 in 6; and readily in diluted acids.

Medicinal Properties.

A powerful emetic and drastic purgative. Rarely given internally. Used externally in neuralgia, in chronic swellings, stiffening or induration of the joints. It should be cautiously used where the skin is broken.

(In all the Pharmacopœias except Dub.; Austr. Veratrinum; Pr. Veratrium.)

Preparation.

UNGUENTUM.

Veratria, 8 grs.; Prepared Lard, 1 oz.; Olive Oil, ½ drm.: rub the Veratria and the Oil together, then mix thoroughly with the Lard. =(1 in 60).

A new preparation.

(U. S. 20 grs. to 1 oz., or 1 in 25; Belg. 1 in 100; not in others.).

Not Officinal.

VERATRUM VIRIDE.

AMERICAN HELLEBORE.

The rhizome of *Veratrum viride*, from North America.

Medicinal Properties.—Emetic. It increases most of the secretions; when freely taken, powerfully influences the nervous system, occasioning faintness, etc., with dilatation of the pupils. Best adapted to gout, rheumatism, and neuralgic affections.

Dose.—4 to 6 grs. of the powder.

TINCTURA.—American Hellebore, in moderately fine powder, 16 oz.; Alcohol, a sufficient quantity: moisten the powder with 4 fluid ounces of Alcohol, pack it firmly in a cylindrical percolator, and gradually pour Alcohol upon it until 32 of Tincture are obtained. =(1 in 2).

Dose.—5 to 15 minims.

VINA.

WINES.

Medicated Wines are of very ancient date, and were admitted into our earliest Pharmacopœias. Two only remain as representatives of the old Pharmacopœias—Vinum Antimonii and V. Ferri; the former was prepared by digesting 4 ounces of the Regulus of Antimony in powder with 3 pounds of "White" Wine (Pharmacopœia Londinensis, 1655). The latter (Vinum Chalybeatum) was made with Rhenish Wine and iron filings.

The Wines of former Pharmacopœias omitted from the British are:—Vinum Antimonii Potassio-Tartratis, Lond., now Vinum Antimoniale; Vinum Gentianæ, Edin.; Vinum Rhei, Edin. Dub.; Vinum Tabaci, Edin.; Vinum Veratri, Lond.

The following are the Wines of the British Pharmacopœia, the formulæ for which will be found under the names of the drugs from which they are prepared:—

Dose.		Proportion of active ingredients in the whole.
1 drm.	VINUM ALOES	1 in 26½
15 min.	VINUM ANTIMONIALE	2 grs. to 1 oz., or 1 in 240
20 min.	VINUM COLCHICI	(Corm) 1 in 5
1 drm.	VINUM FERRI	8 grs. to 1 oz., or 1 in 60
5 min.	VINUM IPECACUANHÆ	1 in 20
15 min.	VINUM OPII	1 in 13½
	VINUM XERICUM.	

VINUM XERICUM.

SHERRY.

A Spanish Wine, containing about seventeen or eighteen per cent. of Alcohol. Unless good sound Sherry is used, the preparations are apt to spoil in keeping.

ZINCUM.

ZINC.

A bluish-white metal (Zn; eq. 32·5), of peculiar taste and of a perceptible smell when rubbed; laminated, and with a crystalline fracture. Sp. g. 6·8.

It occurs native, as a Sulphuret or as a Carbonate, and is separated from impurities by sublimation.

The British Pharmacopœia has continued the preparations of Zinc that were in former Pharmacopœias, viz.:—

ZINCI ACETAS.
ZINCI CARBONAS.
ZINCI CHLORIDUM.
ZINCI OXIDUM.
ZINCI SULPHAS.
ZINCI VALERIANAS.

ZINCI ACETAS.

ACETATE OF ZINC.

$$ZnO, C_4H_3O_3 + 2\,HO\,;\ \text{eq. } 109{\cdot}5.$$

Thin, translucent, and colourless crystalline plates, of pearly lustre.

Solubility: in water, 10 in 25.

Test.—A dilute watery solution is not affected by Chloride of Barium or Nitrate of Silver; and when slightly acidulated with Hydrochloric Acid, is not precipitated by Sulphuretted Hydrogen—indicating absence of Lead. After it has been boiled for a few minutes with a little Nitric Acid, it yields with Ammonia a white precipitate, entirely soluble without colour in an excess of the reagent (Oxide of Zinc).

Medicinal Properties.

Astringent. Similar to the Sulphate.

(Dub. U. S. Pr. and Belg.; not in others.)

Not Officinal.

LOTIO.—Acetate of Zinc, 1 to 2 grs.; Water, 1 oz.: mix.

An astringent collyrium in ophthalmia, or as an injection in gonorrhœa after the acute stage has passed.

ZINCI CARBONAS.

CARBONATE OF ZINC.

$$(ZnO, CO_2 + HO) + 2\,(ZnO, HO)\,;\ \text{eq. } 170{\cdot}5.$$

A white, tasteless, inodorous powder.

Insoluble in water.

Test.—Its solution in dilute Nitric Acid is not precipitated by Chloride of Barium (indicating absence of sulphate), or Nitrate of Silver (absence of chloride), and gives with Carbonate of Ammonia a white precipitate, entirely soluble without colour in an excess of the reagent (Carbonate of Zinc).

Medicinal Properties.

Same as those of the Oxide of Zinc.

(Dub. U. S.; not in others.)

Dose.—2 to 10 grs.

ZINCI CHLORIDUM.

CHLORIDE OF ZINC.

$ZnCl$; eq. 68.

In colourless opaque rods or tablets, very deliquescent and caustic.

Solubility in water, 10 in 4; freely in Rectified Spirit and in Ether.

Test.—Its watery solution is not affected by Chloride of Barium (indicating absence of Sulphuric Acid) or Oxalate of Ammonia (absence of Lime), and is not tinged blue by the Ferrocyanide or Ferridcyanide of Potassium (absence of Iron). Ammonia throws down a white precipitate entirely soluble in an excess of the reagent (Oxide of Zinc).

Medicinal Properties.

Internally, a weak solution is alterative and tonic; externally, applied as a caustic to malignant sores, either mixed with an equal proportion of flour or alone, and as it liquefies, sprinkle with plaster of Paris to prevent its spreading, care being taken that it does not come in contact with the edges of the skin.

(In all the Pharmacopœias; Austr. and Pr. Z. Chloratum; Belg. Chloruretum; Fr. Chlorure de Zinc.)

Dose.—½ to 1 or 2 grs.

Preparation.

LIQUOR.

This preparation is noticed in the Materia Medica of the British Pharmacopœia, but no formula is given. The former Dublin solution had a sp. g. of 1·593, whereas Sir William Burnett's Disinfecting Solution has a sp. g. of 2·000. Chiefly used for deodorizing and disinfecting purposes.

(Dub.; not in others.)

ZINCI OXIDUM.

OXIDE OF ZINC.

ZnO; eq. 40·5.

A soft, white, tasteless, and inodorous powder.

Insoluble in water.

Test.—Dissolves without effervescence in diluted Nitric Acid, forming a solution which is not affected by Chloride of Barium (absence of sulphates), or Nitrate of Silver (absence of chlorides), and gives, with Carbonate of Ammonia, a white precipitate which dissolves entirely without colour in any excess of the reagents.

Medicinal Properties.

Internally as a tonic, especially in spasmodic affections. Astringent and absorbent, employed externally in the form of powder or ointment, to slight excoriations and ulcerations.

(In all the Pharmacopœias; Austr. and Pr. Z. Oxydatum.)

Dose.—2 to 10 grs.

Makes into pills with Conf. Rosæ Caninæ.

Preparation.

UNGUENTUM.

Oxide of Zinc in very fine powder, 1; simple Ointment, 5½: mix. =(1 in 6½).

(Lond. Edin. Dub. and U. S. 1 in 7; Pr. and Belg. 1 in 10; not in others.)

Not Officinal.

UNG. ZINCI BENZOATUM.—Oxide of Zinc, 1; Benzoated Lard, 5½: mix.

ZINCI SULPHAS.

SULPHATE OF ZINC.

ZnO,SO_3+7HO; eq. 143·5.

In colourless, transparent, prismatic crystals, with a strong metallic styptic taste.

Soluble in water, 10 in 7. Insoluble in Rectified Spirit.

Test.—In watery solution is not tinged purple by Tincture of Galls—indicating absence of Iron; and when acidulated with Sulphuric or Hydrochloric Acid, gives no precipitate with Sulphuretted Hydrogen—indicating absence of Lead and Copper. After it has been boiled for a few minutes with a little Nitric Acid, it yields with ammonia a white precipitate, which is entirely soluble without colour in an excess of the reagent (Oxide of Zinc).

Medicinal Properties.

In small doses tonic and astringent; chiefly employed in spasmodic diseases, as epilepsy, chorea, tussis, etc.; in large doses a prompt emetic. As an astringent, chiefly externally, as an injection in fluor albus and in the advanced stages of gonorrhœa; and as a collyrium in ophthalmia, or a wash for indolent ulcers. It is also used as a styptic.

(In all the Pharmacopœias; Austr. and Pr. Z. Sulphuricum; Fr. Sulphate de Zinc.)

Dose.—As a tonic or astringent, 1 to 2 grs.; emetic, 10 to 30 grs.; an injection may be made with 1 to 3 grs. to an ounce of water.

ZINCI VALERIANAS.

VALERIANATE OF ZINC.

$ZnO,C_{10}H_9O_3$; eq. 133·5.

In bright white, pearly, tabular crystals, with a feeble odour of Valerianic Acid and a metallic taste.

Solubility in water, 1 in 120; in Rectified Spirit, 1 in 60; Ether, 1 in 500.

Test.—Its solution in hot water is not precipitated by Chloride of Barium. It gives, when heated with dilute Sulphuric Acid, a distillate (Valerianic Acid), which when mixed with the solution of Acetate of Copper, does not immediately affect the transparency of the fluid, but forms after a little time oily drops, which gradually pass into a bluish-white crystalline deposit—Valerianate of Copper.

Medicinal Properties.

Antispasmodic, chiefly used in chorea, epilepsy, and in various neuralgic and hysterical affections. As a topical astringent in chronic conjunctivitis, as a collyrium (1 or 2 grains to 1 ounce water).

(Dub. U. S. Austr. Belg. Pr.; not in Lond. Edin. Fr.)

Dose.—1 to 6 or more grs. either in pill or solution.

ZINGIBER.

GINGER.

The rhizome of *Zingiber officinale*, scraped and dried; from plants cultivated in the West Indies, India, and other countries.

Medicinal Properties.

Aromatic, stimulant and carminative. It is given in dyspepsia, flatulency, and as an adjunct to purgative medicines. Used as a gargle in cases of relaxed uvula and tonsils.

(In all the Pharmacopœias; Fr. Gingembre.)

Dose.—In powder, 10 to 20 grs.

Contained in Conf. Scammonii, Inf. Sennæ, Pil. Scillæ Comp., Pulv. Jalapæ Comp., Pulv. Rhei Comp., Pulv. Scammonii Comp.

Preparations.

SYRUPUS.

Tincture of Ginger, 1; Syrup, 7: mix. =(1 in 8).

(Same as Dub.; U.S. 1 in 29; Lond. Edin. and Belg. with root, 1 in 20; not in others.)

Dose.—1 to 4 drms.

TINCTURA.

Ginger bruised, 1; Rectified Spirit, 8: macerate the Ginger forty-eight hours in 6 of the spirit, agitating occasionally; pack in a percolator, let it

drain, pour on the remaining spirit, and when it ceases to drop press, filter, and add spirit to make 8. =(1 in 8).

(Lond. Edin. 1 in 16; Dub. and Fr. 1 in 5; U.S. 1 in 3½; Belg. 1 in 6; not in Austr. or Pr.)

Dose.—10 to 30 min.

Not Officinal.

Essentia Zingiberis.—Unbleached Ginger, in powder, 16 oz.; Rectified Spirit, sufficient; moisten the powder with the spirit, pack in a percolator and let sixteen ounces pass through.

APPENDIX A.

ARTICLES EMPLOYED IN THE PREPARATION OF MEDICINES.

ACETATE OF SODA.

ARSENIOUS ACID OF COMMERCE. WHITE ARSENIC.

BICHROMATE OF POTASH.

BISMUTH.

BLACK OXIDE OF MANGANESE.

BONE ASH.

BONE BLACK. ANIMAL CHARCOAL, IVORY BLACK.

BREAD.

BROMINE.

CHALK.

DRIED CHLORIDE OF CALCIUM.

COTTON. Cotton Wool.

ETHER, PURE. Ether free from Alcohol and Water, C_4H_5O.

Take of Ether, 2 pints; Distilled Water, 2 pints; Lime recently burned, ½ oz.; Chloride of Calcium perfectly dry, 4 oz. Shake the Ether with 1 pint of the water, and after separation has taken place, decant the Ether, and again shake it with the remainder of the water. Decant again, and put the washed Ether into a retort with the Lime and the Chloride of Calcium, and after digestion for twenty-four hours, distil with the aid of a gentle heat.

Test.—Sp. g. not exceeding 0·720.

FERROCYANIDE OF POTASSIUM. YELLOW PRUSSIATE OF POTASH.

FLOUR. Wheat Flour.

FOUSEL OIL. AMYLIC ALCOHOL.

HOG'S FAT.

HYDROCHLORIC ACID OF COMMERCE. MURIATIC ACID.

IODINE OF COMMERCE.

IRON WIRE. Annealed Iron Wire, Binding Wire.

MARBLE.

MERCURY OF COMMERCE.

MILK. Cow's Milk.

NITRATE OF POTASH OF COMMERCE.

NITRATE OF SODA.

NITRITE OF SODA. NaO,NO_3.

Take of Nitrate of Soda, 1 lb.; Charcoal recently burned, and in fine powder, 1¼ oz. Mix the Nitrate of Soda and the Charcoal thoroughly in a mortar, and drop the mixture in successive portions into a clay crucible heated to dull redness. When the salt has become quite white, raise the heat so as to liquefy it, pour it out on a clean flagstone, and, when it has solidified, break it into fragments, and keep it in a stoppered bottle.

Characters.—In opaque white fragments, soluble in water and in Rectified Spirit. The aqueous solution gives a white crystalline precipitate with Nitrate of Silver, which dissolves in hot water. A fragment, moistened with a solution of Sulphate of Copper, acquires an emerald-green colour. Tartaric Acid, added to a strong solution, developes ruddy fumes, but gives no precipitate. This is a mixture of several substances, containing never more than 25 per cent. of Nitrite of Soda.

OX BILE. Ox Gall.

PHOSPHORUS.

PYROXYLIN. Gun Cotton.

Take of Cotton, 1 oz.; Sulphuric Acid, 5 fl. oz.; Nitric Acid, sp. g. 1·420, 5 fl. oz. Mix the Acids in a porcelain mortar, immerse the cotton in the mixture, and stir it for three minutes with a glass rod, until it is thoroughly wetted by the acids. Transfer the cotton to a vessel containing water, stir it well with a glass rod, decant the liquid, pour more water upon the mass, agitate again, and repeat the affusion, agitation, and decantation, until the washing ceases to give a precipitate with Chloride of Barium. Drain the product on filtering-paper, and dry in a water bath.

Test.—Readily soluble in a mixture of Ether and Rectified Spirit; leaves no residue when exploded by heat.

BISULPHATE OF POTASH.

SILVER, REFINED.

SOLUTION OF PERSULPHATE OF IRON. Persulphate of Iron, $Fe_2O_3,3SO_3$, in solution in Water.

Take of Sulphate of Iron, 8 oz.; Sulphuric Acid, 6 fl. drms.; Nitric Acid, 4 fl. drms.; Distilled Water, 12 fl. oz., or a sufficiency. Add the Sulphuric Acid to 10 ounces of the water, and dissolve the Sulphate of Iron in the mixture, with the aid of heat. Mix the Nitric Acid with the remaining 2 ounces of water, and add the dilute acid to the Solution of Sulphate of Iron. Concentrate the whole by boiling, until, upon the sudden disengagement of ruddy vapours, the liquid ceases to be black, and acquires a red colour. A drop of the solution is now to be tested with Ferridcyanide of Potassium, and if a blue precipitate forms, a few additional drops of Nitric Acid should be added, and the boiling renewed, in order that the whole of the Protosulphate may be converted into Persulphate of Iron. When the solution is cold, make the quantity 11 fluid ounces, by the addition, if necessary, of Distilled Water.

Characters.—A viscid solution of a dark-red colour, inodorous, and very astringent, miscible in all proportions with alcohol and water. Diluted with 10 volumes of water it gives a white precipitate with the Chloride of Barium, and a blue precipitate with the Ferrocyanide but not with the Ferridcyanide of Potassium.

Test.—Sp. g. 1·441. 1 fluid drachm diluted with 2 fluid ounces of Distilled Water gives upon the addition of an excess of solution of Ammonia a precipitate, which, when well washed and incinerated, weighs 11·44 grains: Oxide of Iron.

SQUIRTING CUCUMBER FRUIT.

SULPHATE OF AMMONIA. NH_4O,SO_3.

SULPHATE OF COPPER OF COMMERCE.

SULPHATE OF MERCURY.

SULPHURET OF ANTIMONY PREPARED.

U of M

SULPHURIC ACID OF COMMERCE. OIL OF VITRIOL.

Test.—Sp. g. 1·840 to 1·850. When the Acid mixed with six times its volume of Distilled Water is placed in contact with pure Zinc, and the Hydrogen evolved is ignited as it escapes from the capillary extremity of a glass tube, if a dark stain is formed on a piece of porcelain held low down on the flame, the Acid contains Arsenic, and is to be rejected. When a Solution of Sulphate of Iron is poured cautiously on the surface of the undiluted Acid, if a red tint appears at the surface of contact, the Acid contains Nitrous Acid, and if the Acid diluted as above becomes turbid, it contains other impurities, and in either case requires purification.

VALERIANATE OF SODA. $NaO,C_{10}H_9O_3$.

WHITE OF EGG.

ZINC, GRANULATED.

ZINC OF COMMERCE.

APPENDIX B.

I. ARTICLES EMPLOYED IN CHEMICAL ANALYSIS.

ALCOHOL. Absolute Alcohol. Hydrate of Oxide of Ethyl, C_4H_5O,HO.
Test.—Sp. g. 0·795. It is entirely volatilized by heat, is not rendered turbid when mixed with water, and does not give rise to a blue colour when in contact with Anhydrous Sulphate of Copper.

BORACIC ACID. BO_3+3HO.

CHLORIDE OF BARIUM. $BaCl+2HO$.

COPPER FOIL. Pure Metallic Copper, thin and bright.

FERRIDCYANIDE OF POTASSIUM. Red Prussiate of Potash. K_3,Fe_2Cy_6. (Cyanogen, $Cy=C_2N$.)
Test.—Its solution in water gives no precipitate with Persulphate of Iron.

GOLD, FINE. Gold, free for metallic impurities.

HYPOSULPHITE OF SODA. NaO,S_2O_2+5HO.
Test.—24·8 grains decolorize 100 measures of the volumetric Solution of Iodine.

INDIGO. $C_{16}H_5NO_2$.

ISINGLASS.

LITMUS.

LITMUS PAPER, BLUE. Unsized paper steeped in Tincture of Litmus, and dried by exposure to the air.

LITMUS PAPER, RED. Unsized paper steeped in Tincture of Litmus which has been previously reddened by the addition of a very minute quantity of Sulphuric Acid, and dried by exposure to the air.

LITMUS TINCTURE. Take of Litmus, in powder, 1 oz.; Proof Spirit, 10 fl. oz. Macerate for seven days and filter.

OXALIC ACID OF COMMERCE.

OXALIC ACID, PURIFIED. HO,C_2O_3+2HO.
Test.—Is entirely dissipated by a heat below 350°.

PLASTER OF PARIS.

PLATINUM FOIL.

POTASSIUM.

SUBACETATE OF COPPER OF COMMERCE. VERDIGRIS.
$2CuO,C_4H_3O_3+6HO$.

SULPHATE OF COPPER, ANHYDROUS. CuO,SO_3. Sulphate of Copper deprived of its water by a heat of 400°.

Characters.—A yellowish-white powder, which becomes blue when moistened with water.

SULPHURET OF IRON. FeS.

SULPHURETTED HYDROGEN. HS.

Take of Sulphuret of Iron, ½ oz.; Water, 4 fl. oz.; Sulphuric Acid of Commerce, a sufficiency. Place the Sulphuret of Iron and the Water in a gas-bottle closed with a cork perforated by two holes, through one of which pass air-tight a funnel tube of sufficient length to dip into the water, and through the other a tube for giving exit to the gas. Through the former pour from time to time a little of the acid, so as to develope the Sulphuretted Hydrogen according as it is wanted.

TIN, GRANULATED.

TURMERIC.

TURMERIC PAPER. Unsized Paper steeped in Tincture of Turmeric, and dried by exposure to the air.

TURMERIC TINCTURE.

Take of Turmeric, bruised, 1 oz.; Proof Spirit, 6 fl. oz.: macerate for seven days, and strain.

II. TEST SOLUTIONS FOR QUALITATIVE ANALYSIS.

SOLUTION OF ACETATE OF COPPER.

(Acetate of Copper = $CuO,C_4H_3O_3+HO$.)

Take of Subacetate of Copper of Commerce, in fine powder, ½ oz.; Acetic Acid, 1 fl. oz.; Distilled Water, a sufficiency: dilute the acid with half a fluid ounce of the water; digest the Subacetate of Copper in the mixture at a temperature not exceeding 212° with repeated stirring, and continue the heat until a dry residue is obtained. Digest this in 4 ounces of boiling Distilled Water, and by the addition of more of the water make up the solution to 5 fluid ounces.

SOLUTION OF ACETATE OF POTASH.

Take of Acetate of Potash, ½ oz.; Distilled Water, 5 fl. oz.: dissolve.

SOLUTION OF ACETATE OF SODA.

Take of Acetate of Soda, ½ oz.; Distilled Water, 5 fl. oz.: dissolve.

SOLUTION OF ALBUMEN.

Take of 1 Egg the white; Distilled Water, 4 fl. oz.: mix by trituration in a mortar, and filter through clean tow first moistened with Distilled Water. This solution must be recently prepared.

SOLUTION OF AMMONIO-NITRATE OF SILVER. (Ammonio-Nitrate of Silver = AgO,NO_5+2NH_3.)

Take of Nitrate of Silver, in crystals, ¼ oz.; Solution of Ammonia, ½ fl. oz., or a sufficiency; Distilled Water, a sufficiency: dissolve the Nitrate of Silver in 8 fluid ounces of the water, and to the solution add the Ammonia until the precipitate first formed is nearly dissolved. Clear the solution by filtration, and then add Distilled Water, so that the bulk may be 10 fluid ounces.

SOLUTION OF AMMONIO-SULPHATE OF COPPER. (Ammonio-Sulphate of Copper = CuO,SO_3+2NH_3,HO.)

Take of Sulphate of Copper, in crystals, ½ oz.; Solution of Ammonia a sufficiency; Distilled Water, a sufficiency: dissolve the Sulphate of Copper in 8 fluid

ounces of the water, and to the solution add the Ammonia until the precipitate first formed is nearly dissolved. Clear the solution by filtration, and then add Distilled Water, so that the bulk may be 10 fluid ounces.

SOLUTION OF AMMONIO-SULPHATE OF MAGNESIA. (Ammonio-Sulphate of Magnesia = MgO,SO_3+NH_4O,SO_3+6HO.)

Take of Sulphate of Magnesia, 1 oz.; Hydrochlorate of Ammonia, ½ oz.; Solution of Ammonia, ½ fl. oz.; Distilled Water, a sufficiency: dissolve the Sulphate of Magnesia and Hydrochlorate of Ammonia in 8 fluid ounces of the water, and to the solution add the Ammonia, and as much Distilled Water as will make up the bulk to 10 fluid ounces.

SOLUTION OF BICHLORIDE OF PLATINUM. (Bichloride of Platinum = PCl_2.)

Take of thin Platinum Foil, ¼ oz.; Nitric Acid, a sufficiency; Hydrochloric Acid, a sufficiency; Distilled Water, 7 fl. oz.: mix half a fluid ounce of the Nitric Acid with 3 fluid ounces of the Hydrochloric Acid and 2 fluid ounces of the water; pour the mixture into a small flask containing the Platinum, and digest at a gentle heat, adding more of the Acids mixed in the same proportion, should this be necessary, until the metal is dissolved. Transfer the solution to a porcelain capsule, add to it a fluid drachm of Hydrochloric Acid, and evaporate on a water bath, until acid vapours cease to be given off. Let the residue be dissolved in the remaining 5 ounces of Distilled Water, and preserved in a stoppered bottle.

SOLUTION OF BORACIC ACID.

Take of Boracic Acid, 50 grs.; Rectified Spirit, 1 fl. oz.: dissolve.

SOLUTION OF BROMINE.

Take of Bromine, 10 minims; Distilled Water, 5 fl. oz. Place the Bromine in a bottle furnished with a well-fitting stopper, pour on the water, and shake several times.

SOLUTION OF CARBONATE OF AMMONIA.

Take of Carbonate of Ammonia, in fine powder, ½ oz.; Distilled Water, a sufficiency: shake the Carbonate of Ammonia in a bottle with 8 fluid ounces of the water until it is dissolved, and by the addition of more of the water make up the bulk of the solution to 10 fluid ounces.

SOLUTION OF CHLORIDE OF BARIUM.

Take of Chloride of Barium, in crystals, 1 oz.; Distilled Water, a sufficiency: dissolve the Chloride of Barium in 8 fluid ounces of the water, and add as much Distilled Water as will make the bulk of the solution 10 fluid ounces.

SOLUTION OF CHLORIDE OF CALCIUM.

Take of Chloride of Calcium, 1 oz.; Distilled Water, a sufficiency: dissolve the Chloride of Calcium in 8 fluid ounces of the Water, and add as much Distilled Water as will make the bulk of the solution 10 fluid ounces.

SOLUTION (SATURATED) OF CHLORIDE OF CALCIUM.

Take of Chloride of Calcium, 336 grs.; Distilled Water, 1 fl. oz.: dissolve.

SOLUTION OF CHLORIDE OF TIN. (Chloride of Tin = $SnCl$.)

Take of Granulated Tin, 1 oz.; Hydrochloric Acid, 3 fl. oz.; Distilled Water, a sufficiency: dilute the Acid in a flask with 1 fluid ounce of the water, and, having added the Tin, apply a moderate heat until gas ceases to be evolved. Add as much of the water as will make up the bulk to 5 fluid ounces, and transfer the solution, together with the undissolved Tin, to a bottle with an accurately-ground stopper.

SOLUTION OF CORROSIVE SUBLIMATE.

Take of Corrosive Sublimate, 100 grs.; Distilled Water, 5 fl. oz.: dissolve, and keep the solution in a bottle impervious to light.

SOLUTION OF FERRIDCYANIDE OF POTASSIUM.

Take of Ferridcyanide of Potassium, in crystals, ¼ oz.; Distilled Water, 5 fl. oz.: dissolve, and keep the solution in a stoppered bottle.

SOLUTION OF FERROCYANIDE OF POTASSIUM.

Take of Ferrocyanide of Potassium, in crystals, ¼ oz.; Distilled Water, 5 fl. oz.: dissolve, and keep the solution in a stoppered bottle.

SOLUTION OF GELATINE.

Take of Isinglass, in shreds, 50 grs.; Warm Distilled Water, 1 fl. oz.: mix, and digest for half an hour on a water bath with repeated shaking, and filter through clean tow moistened with Distilled Water.

SOLUTION OF HYDROCHLORATE OF AMMONIA.

Take of Hydrochlorate of Ammonia, 1 oz.; Distilled Water, a sufficiency: dissolve the Hydrochlorate of Ammonia in 8 fluid ounces of the water, and with Distilled Water make up the bulk to 10 fluid ounces.

SOLUTION OF HYDROSULPHURET OF AMMONIA. (Hydrosulphuret of Ammonia $= NH_4S,HS$.)

Take of Solution of Ammonia, 1 fl. oz.: conduct into this a stream of Sulphuretted Hydrogen so long as this gas continues to be absorbed, and then transfer the solution to a green-glass bottle furnished with a well-ground stopper.

SOLUTION OF IODATE OF POTASH. (Iodate of Potash $= KO,IO_5$.)

Take of Iodine, 50 grs.; Chlorate of Potash, 50 grs.; Nitric Acid, 5 minims; Distilled Water, 10½ fl. oz. Rub the Iodine and Chlorate of Potash together to a fine powder; place the mixture in a Florence flask, and, having poured upon it half an ounce of the Water acidulated with the Nitric Acid, digest at a gentle heat until the colour of the Iodine disappears. Boil for one minute; then transfer the contents of the flask to a capsule, and evaporate to perfect dryness at 212°. Finally dissolve the residue in the remaining 10 ounces of Distilled Water; filter the solution, and keep it in a stoppered bottle.

SOLUTION OF IODIDE OF POTASSIUM.

Take of Iodide of Potassium, 1 oz.; Distilled Water, a sufficiency: dissolve the Iodide of Potassium in 8 fluid ounces of the water, and by the addition of Distilled Water, make up the bulk of the solution to 10 fluid ounces.

SOLUTION OF OXALATE OF AMMONIA. (Oxalate of Ammonia crystallized $= NH_4O,C_2O_3 + HO$.)

Take of Purified Oxalic Acid, 1 oz.; boiling Distilled Water, 8 fl. oz.; Carbonate of Ammonia, in powder, a sufficiency: dissolve the Oxalic Acid in the water, neutralize the solution with the Carbonate of Ammonia, filter, cool, and crystallize.

Take of the Crystals of Oxalate of Ammonia thus obtained, first dried on filtering-paper by simple exposure to air, and free from efflorescence, ½ oz.; warm Distilled Water, 1 pint: dissolve.

SOLUTION OF PHOSPHATE OF SODA.

Take of Phosphate of Soda, in crystals, 1 oz.; Distilled Water, a sufficiency: dissolve the Phosphate of Soda in 8 fluid ounces of the Water, and add as much Distilled Water as will make the bulk of the solution 10 fluid ounces.

SOLUTION OF SULPHATE OF INDIGO.

(Sulphate of Indigo $= HO,C_{16}H_4NO,2SO_3$.)

Take of Indigo, 5 grs.; pure Sulphuric Acid, 1 fl. drm.; Distilled Water, 10 fl. oz.: mix the Indigo and the Sulphuric Acid in a small test-tube, and apply the heat of a water bath for an hour. Pour the blue liquid into the Distilled Water, agitate the mixture, and, when the undissolved Indigo has subsided, decant the clear liquid into a stoppered bottle.

SOLUTION OF SULPHATE OF IRON.

Take of Granulated Sulphate of Iron, 10 grs.; boiling Distilled Water, 1 fl. oz.: dissolve. This solution should be recently prepared.

SOLUTION OF SULPHATE OF LIME.

Take of Plaster of Paris, ¼ oz.; Distilled Water, 1 pint: rub the Plaster of Paris in a porcelain mortar for a few minutes with 2 oz. of the water; introduce the white mixture thus obtained into a pint bottle containing the rest of the

water, shake well several times, and allow the undissolved Sulphate to subside; when this has occurred, filter, and preserve the clear solution in a stoppered bottle.

SOLUTION OF TARTARIC ACID.

Take of Tartaric Acid, in crystals, 1 oz.; Distilled Water, 8 fl. oz.; Rectified Spirit, 2 fl. oz.: dissolve the Tartaric Acid in the water, add the Rectified Spirit, and preserve the solution in a stoppered bottle.

SOLUTION OF TERCHLORIDE OF GOLD. (Terchloride of Gold = $AuCl_3$.)

Take of Fine Gold, reduced by a rolling machine to a thin lamina, 60 grs.; Nitric Acid, 1 fl. oz.; Hydrochloric Acid, 7 fl. oz.; Distilled Water, 9 fl. oz.; place the Gold in a flask with 1 fluid ounce of the Nitric and 6 fluid ounces of the Hydrochloric Acid, first mixed with 4 fluid ounces of the water, and digest until it is dissolved; add to the solution an additional fluid ounce of Hydrochloric Acid, evaporate at a heat not exceeding 212° until acid vapours cease to be given off, and dissolve the Terchloride of Gold thus obtained in 5 fluid ounces of Distilled Water. The solution should be kept in a stoppered bottle.

III. TEST SOLUTIONS FOR VOLUMETRIC ANALYSIS.

Volumetric solutions, before being used, should be shaken, in order that they may be throughout of uniform strength. They should also be preserved in stoppered bottles. The tube used with these solutions is an Alkalimeter, which, when filled to 0, holds 1000 grains of Distilled Water at 60°, and is divided into 100 parts of equal capacity.

VOLUMETRIC SOLUTION OF BICHROMATE OF POTASH. (Bichromate of Potash, $KO,2CrO_3 = 147{\cdot}5$.)

Take of Pure Bichromate of Potash, 129 grs.; Distilled Water, 1 pint: dissolve. The quantity of this solution which fills the volumetric tube to 0, contains $\frac{1}{10}$ of an equivalent, in grains, of the Bichromate of Potash, and, when added to a solution of a protosalt of iron acidulated with Hydrochloric Acid, is capable of converting $\frac{1}{10}$ of 6 equivalents of iron (16·8 grains) from the state of a protosalt to that of a persalt. In practising this volumetric process, it is known that the whole of the protosalt has been converted into a persalt when a minute drop of the solution, placed in contact with a drop of the solution of Ferridcyanide of Potassium on a white plate, ceases to strike with it a blue colour.

VOLUMETRIC SOLUTION OF HYPOSULPHITE OF SODA. (Hyposulphite of Soda crystallized, $NaO,S_2O_2 + 5HO = 124$.)

Take of Hyposulphite of Soda, in crystals, 260 grs.; Distilled Water, a sufficiency: dissolve the Hyposulphite of Soda in 1 pint of the water, and drop the solution cautiously from the volumetric tube into 100 measures of the volumetric solution of Iodine until the brown colour of the Iodine is just discharged. Note the number of measures (N) which have been used to produce this effect; and having then taken 16 fluid ounces of the same solution, augment this quantity by the addition of Distilled Water until it amounts to $\frac{1600}{N}$ fluid ounces. If, for example, $N = 96$, the 16 ounces of the solution of the Hyposulphite should be diluted with Distilled Water so as to become $\frac{1600}{96} = 16{\cdot}66$ fluid ounces. This solution is used for estimating free Iodine, an object which it accomplishes by forming with the Iodine, Iodide of Sodium and Tetrathionate of Soda. 100 measures of it include $\frac{1}{10}$ of 2 equivalents of the Hyposulphite in grains, and therefore correspond to 12·7 grains of free Iodine.

VOLUMETRIC SOLUTION OF IODINE. (Iodine, $I = 127$.)

Take of Pure Iodine, in powder, 111·125 grs.; Iodide of Potassium, 150 grs.; Distilled Water, a sufficiency: mix the Iodide of Potassium and Iodine in a bottle with 18 ounces of the water; agitate until both are dissolved, and, when the solution is complete, and as much more Distilled Water as will make the total

bulk exactly 1 pint. This solution may be employed for determining the amount of Sulphuretted Hydrogen or of a metallic sulphuret in a fluid, but is chiefly used for the estimation of Sulphurous and Arsenious acids. It is dropped from the volumetric tube into the liquid to be tested until free Iodine begins to appear in the solution. 100 volumetric measures of it include 12·7 grains ($\frac{1}{10}$ of an equivalent) of Iodine, and therefore correspond to 1·7 grains of Sulphuretted Hydrogen, 3·2 grains of Sulphurous, and 4·95 grains of Arsenious acid.

VOLUMETRIC SOLUTION OF NITRATE OF SILVER. (Nitrate of Silver, $AgO,NO_5 = 170$.)

Take of Nitrate of Silver, 148·75 grs.; Distilled Water, 1 pint: dissolve, and keep in an opaque stoppered bottle. The quantity of this solution which fills the volumetric tube to 0, includes 17 grains of Nitrate of Silver, or $\frac{1}{10}$ of an equivalent of the salt in grains. Upon dropping into dilute Hydrocyanic Acid rendered alkaline by soda, the precipitate first formed is upon agitation redissolved, and continues to be so until the whole of the Cyanogen of the Acid has united with the Sodium and the Silver, forming the double Cyanide of Sodium and Silver. In such experiments 100 volumetric measures of the solution correspond to 5·4 grains of absolute Hydrocyanic Acid.

VOLUMETRIC SOLUTION OF OXALIC ACID. (Oxalic Acid crystallized, $HO,C_2O_3 + 2HO = 63$.)

Take of Purified Oxalic Acid in crystals, quite dry, but not effloresced, 551·25 grs.; Distilled Water, a sufficiency: dissolve the Oxalic Acid in 18 fluid ounces of the water, and, when the solution is complete, add as much Distilled Water as will make its bulk exactly 20 fluid ounces at 60°. The quantity of this solution which fills the volumetric tube to 0, includes exactly 63 grains of crystallized Oxalic Acid, and is therefore capable of neutralizing an equivalent in grains of any alkali, or alkaline carbonate.

VOLUMETRIC SOLUTION OF SODA. (Soda, $NaO = 31$.)

Take of Solution of Soda, a sufficiency; Distilled Water, a sufficiency: fill the volumetric tube to 0 with the Solution of Soda, and drop this into 63 grains of purified Oxalic Acid dissolved in 2 fluid ounces of the water, until the acid is exactly neutralized, as indicated by litmus. Note the number of measures (N) of the solution used, and having then taken 40 fluid ounces of the Solution of Soda, augment this quantity by the addition of Distilled Water, until it becomes $\frac{4000}{N}$ fluid ounces. If for example, $N = 93$, the 40 ounces of Solution of Soda should be diluted so as to become $\frac{4000}{93} = 43·01$ fluid ounces. The quantity of this solution which fills the volumetric tube to 0, includes 31 grains of soda, and will therefore neutralize an equivalent in grains of any monobasic acid.

APPENDIX C.

DIRECTIONS FOR PERCOLATING TINCTURES.

After the materials have been macerated for forty-eight hours in three-fourths of the menstruum ordered, percolation will be most efficiently performed by decanting the liquid, pressing the ingredients in the hand, and carefully packing them, in small portions at a time, in a conical percolator, so that the mass shall be uniformly tight throughout. The decanted liquid may then be poured upon the ingredients and suffered to percolate; the remainder of the menstruum being afterwards poured upon them in order to chase the strong tincture out. As soon as the liquid ceases to drop, the ingredients are to be removed and pressed. Any deficiency in the product may be made up by adding more of the menstruum and repeating the pressure.

APPENDIX D.

SYMBOLS AND EQUIVALENT WEIGHTS OF ELEMENTARY BODIES MENTIONED IN THE BRITISH PHARMACOPŒIA.

Elementary Bodies.	Symbols.	Equivalent Weights.
Aluminium	Al	13·75
Antimony (Stibium)	Sb	122
Arsenic	As	75
Barium	Ba	68·5
Bismuth	Bi	210
Boron	B	11
Bromine	Br	80
Calcium	Ca	20
Carbon	C	6
Chlorine	Cl	35·5
Chromium	Cr	26·25
Copper (Cuprum)	Cu	31·75
Gold (Aurum)	Au	196·5
Hydrogen	H	1
Iodine	I	127
Iron (errum)	Fe	28
Lead (Plumbum)	Pb	103·5
Lithium	L	7
Magnesium	Mg	12
Manganese	Mn	27·5
Mercury (Hydrargyrum)	Hg	100
Nitrogen	N	14
Oxygen	O	8
Phosphorus	P	31
Platinum	Pt	98·5
Potassium (Kalium)	K	39
Silver (Argentum)	Ag	108
Sodium (Natrium)	Na	23
Sulphur	S	16
Tin (Stannum)	Sn	59
Zinc	Zn	32·5

INDEX.

The Names adopted by the British Pharmacopœia are put in Roman letters; all others, whether referring to Officinal or Non-officinal Medicines, are put in Italics. The Appendix is not indexed.

ACA	Dose.	Page
ACACIA		1
Acaciæ Mucilago	1 to 8 drms.	1
Acetum		2
Acidum Aceticum		2
Acidum Aceticum Aromaticum		3
Acidum Aceticum dilutum	1 to 3 drms.	3
Acidum Aceticum glaciale		3
Acidum Arseniosum	$\frac{1}{24}$ to $\frac{1}{12}$ gr.	4
Acidum Benzoicum	5 to 15 grs.	5
Acidum Carbolicum		81
Acidum Citricum	10 to 30 grs.	5
Acidum Gallicum	3 to 5 grs.—10 to 60 in albumenuria	6
Acidum Hydrochloricum		6
Acidum Hydrochloricum dilutum	10 to 30 minums	7
Acidum Hydrocyanicum dilutum	2 to 8 minims	7
Acidum Meconicum		156
Acidum Muriaticum purum		6
Acidum Nitricum		8
Acidum Nitricum dilutum	15 to 25 minims	8
Acidum Nitro-hydrochloricum dilutum	15 to 30 minims	9
Ditto . . . . *Bath*		9
Acidum Opianicum		156
Acidum Phosphoricum dilutum	10 to 20 minims	9
Acidum Sulphuricum		10
Acidum Sulphuricum aromaticum	5 to 10 minims	10
Acidum Sulphuricum dilutum	5 to 10 or 20 minims	11
Acidum Sulphurosum	1 drm. or more	11
Acidum Tannicum	3 to 15 grs.	11
Acidum Tartaricum	10 to 30 grs.	12
Aconiti Radix		14
Aconiti Succus	15 to 20 minims	14
Aconitia		13

ACO	Dose.	Page
Aconitine Ointment		13
Aconitum		13
Actæa Racemosa		14
Actææ Racemosæ Tinct.	30 to 60 minims	14
Adeps præparatus		14
Adeps Benzoatus		15
Adeps Odoriferus		15
Adeps Oxygenatus		15
Adeps Myristicæ		150
Æther	20 to 40 minims	15
Ætheris Nitrosi Spiritus	½ to 2 drms.	16
Æther Sulphuricus. *See* Æther.		
Æther Chloricus. *See* Spir. Chloroformi.		
Aloe Barbadensis	2 to 4 grs.	17
Aloe Socotrina	3 to 6 grs.	18
Aloine	1 to 2 grs.	18
Alum Cataplasm		21
Alum Gargle		21
Alum Whey		21
Alumen	10 to 15 grs.	20
Alumen exsiccatum		21
Aluminium		20
Ammonia		22
Ammoniacum	10 to 20 grs.	25
Ammoniæ Acetatis Liquor	15 to 60 minims	22
Ammoniæ Benzoas	10 to 20 grs.	22
Ammoniæ Carbonas	3 to 10 grs.	23
Ammoniæ Hydrochloras	10 to 15 grs.	24
Ammoniæ Liquor	10 to 20 minims	24
Ammoniæ Liquor fortior		24
Ammoniæ Murias. *See* Ammoniæ Hydrochloras.		
Ammoniæ Phosphas	10 to 20 grs.	25
Ammoniæ Sesquicarbonas (*see* Ammoniæ Carbonas)		23
Ammonii Bromidum		21
Ammonii Bromidum (Lozenges)		21
Ammonii Iodidum	2 to 5 grs.	21
Ammonium		21
Ammonium Carbonicum. *See* Ammoniæ Carbonas.		
Amygdala		26
Amygdalæ Oleum	2 to 4 drms.	26
Amylum		27
Amylum Iodatum		27
Anethi Oleum	1 to 4 minims	28
Anethum		27
Anisi Oleum	1 to 4 minims	28
Anthemis		28
Antimonii Oxidum	2 to 5 grs.	29
Antimonii Oxysulphuretum. *See* Ant. Sulphuratum.		
Antimonii Potassio-tartras. *See* Ant. Tartaratum.		
Antimonii Sulphuretum aureum. *See* Ant. Sulphuratum.		

ANT	Dose.	Page
Antimonii Sulphuretum præcipitatum. *See* Ant. Sulphuratum.		
Antimonii Terchloridi Liquor		30
Antimonii et Potassæ Tartras. *See* Antimonium Tartaratum.		
Antimonium		29
Antimonium Sulphuratum	1 to 3 grs.	30
Antimonium Tartaratum / *Antimonium Tartarizatum*	Diaphoretic . $\frac{1}{16}$ to $\frac{1}{6}$ gr. / Depressant . $\frac{1}{6}$ to 2 grs. / Emetic . . . 1 to 3 grs.	31
Aqua (*group*)		32
Aqua Anethi	$\frac{1}{2}$ to 1 oz.	27
Aqua Aurantii	1 to 2 oz.	38
Aqua Camphoræ	1 to 2 oz.	54
Aqua Carui	1 to 2 oz.	60
Aqua Cinnamomi	1 to 2 oz.	74
Aquæ destillatæ (*group*)		33
Aqua Fœniculi	1 to 2 oz.	108
Aqua Laurocerasi	10 to 30 minims	131
Aqua Menthæ Piperitæ	1 to 2 oz.	146
Aqua Menthæ Viridis	1 to 2 oz.	146
Aqua Naphæ		38
Aqua Picis		164
Aqua Opii		158
Aqua Pimentæ	1 to 2 oz.	163
Aqua Rosæ	1 to 2 oz.	184
Aqua Sambuci		188
Argenti Nitras	$\frac{1}{4}$ to $\frac{1}{2}$ gr.	34
Argenti Oxidum	$\frac{1}{2}$ to 2 grs.	35
Argentum		34
Armoracia		35
Arnica		36
Arnica Opodeldoc		36
Arsenias Sodæ. *See* Sodæ Arsenias.		
Arseniatis Sodæ Liquor. *See* Sodæ Arseniatis Liquor.		
Arsenical Caustic Powders		4
Arsenical Paste for Dentists		4
Arsenici Iodidum	$\frac{1}{30}$ gr.	4
Arsenicum		37
Arsenicum album. *See* Acidum Arseniosum.		
Assafœtida	5 to 30 grs.	37
Atropia		38
Atropine Gelatine		38
Atropine Paper		38
Aurantii Aqua	1 to 2 oz.	38
Aurantii Cortex		39
Axungia		14
Balneum Alkalinum		201
Balneum Sulphuretum		171
Balsamum Canadense. *See* Terebinthina Canadensis.		
Balsamum Peruvianum	10 to 15 minims	40

BAL	Dose.	Page
Balsamum Tolutanum	10 to 30 grs.	40
Bath of Acidum Nitrohydrochloricum dilutum		9
Baume de Vie		19
Beberiæ Sulphas	1 to 3 grs. tonic. 5 to 10 grs. antiperiodic	41
Bela		41
Belladonna		42
Belladonnæ Radix		43
Benzoic Acid	5 to 15 grs.	5
Benzoinum	10 to 30 grs.	43
Bicknell's Pure Yellow Soap		190
Bismuthi Nitras. *See* B. album.		
Bismuthi Subnitras. *See* B. album.		
Bismuthum album	5 to 15 grs.	44
Black Drop (Cook)	4 to 8 minims	159
Blistering Tissue, Brown's		58
Borax	5 to 30 grs.	45
Bromide of Ammonium	8 to 12 grs.	21 and 168
Bromide of Ammonium Lozenges		21
Bucco	20 to 40 grs.	46
Butter of Cacao		15
Cacao Butter		15
Cadmium		46
Cajuputi Oleum	1 to 5 minims	47
Calabar Bean		47
Calabar Gelatine		48
Calabar Paper		48
Calcaria Hyperchlorosa		49
Calcii Chloridum		48
Calcis Carbonas præcipitata	10 to 100 grs.	49
Calcis Carbonas. *See* Creta præparata		81
Calcis Hydras		50
Calcis Hypophosphis	3 to 5 grs.	51
Calcis Phosphas præcipitata	10 to 40 grs.	51
Calcium		48
Calomelas	Alterative, ½ to 1 gr. Purgative, 2 to 8 grs.	51
Calumba	10 to 20 grs.	52
Calx		48
Calx Chlorata		49
Calx Chlorinata		49
Cambogia	1 to 5 grs.	53
Camphor Balls		55
Camphora	2 to 10 grs.	54
Camphora cum Creta		55
Cannabis Indica		55
Cantharis		56
Capsicum	1 to 5 grs.	58
Carbo Animalis purificatus		59
Carbo Ligni	10 to 20 grs.	59
Carbolic Acid		81

CAR	Dose.	Page
Cardamomum	5 to 20 grs.	60
Carron Oil		50
Carui		60
Carui Oleum	2 to 4 minims	60
Caryophylli Oleum	1 to 4 minims	61
Caryophyllum	5 to 10 grs.	61
Cascarilla	10 to 30 grs.	61
Cassia (pulp)	Laxative, 60 to 120 grs. Purgative, 1 to 2 oz.	62
Castoreum	5 to 15 grs.	62
Cataplasma Aluminis		21
Cataplasma Carbonis		59
Cataplasma Conii		79
Cataplasma Fermenti		66
Cataplasma Lini		135
Cataplasma Sinapis		198
Cataplasma Sodæ Chloratæ		203
Cataplasmata (*group*)		63
Catechu nigrum	5 to 15 grs.	63
Catechu pallidum	10 to 30 grs.	63
Cera alba		65
Cera flava		65
Ceratum Camphoræ		55
Ceratum Saponis		190
Cerevisiæ Fermentum	½ to 2 oz.	66
Cerii Oxalas	1 gr.	66
Cetaceum	20 to 60 grs.	67
Cetraria		67
Chirata		68
Chlori Liquor	½ to 1 drm.	68
Chloride of Calcium		48
Chloroformum	1 to 5 minims	69
Cholera Mixture	1 oz.	83
Cinchona		70
Cinchona flava	Tonic, 15 grs. Antiperiodic, 60 to 120 grs.	71
Cinchona pallida		73
Cinchona rubra		73
Cinnamomi Oleum	1 to 4 minims	74
Cinnamomum	10 to 20 grs.	73
Citric Acid		5
Cocculus		74
Coccus	½ gr.	75
Codeia	½ to 1 gr.	155
Colchici Cormus	2 to 8 grs.	75
Colchici Semen		76
Cold Cream		65
Collodium		77
Collyrium Hydrargyri		122
Colocynthis	5 to 10 grs.	77

Confectio Amygdalæ. *See* Pulv. Amygd. Comp.

Confectio Aromatica (Pulv. Arom.). *See* Cinnamomum.

CON	Dose.	Page
Confectio Piperis	60 to 120 grs.	163
Confectio Rosæ Caninæ	1 drm.	183
Confectio Rosæ Gallicæ	½ to 1 drm.	184
Confectio Scammonii	10 to 30 grs.	192
Confectio Sennæ	½ to 2 drms.	195
Confectio Sulphuris	2 to 4 drms.	209
Confectio Terebinthinæ	1 to 4 drms.	215
Confectiones (*group*)		78
Conii Fructus		79
Conium	3 to 10 grs.	78
Conserva Amygdalarum. *See* Pulv. Amygd. Comp.		
Copaiba	20 to 60 minims	80
Copaibæ Oleum	15 to 60 minims	80
Coriandri Oleum	1 to 4 minims	80
Coriandrum	20 to 60 grs.	80
Creasotum	1 to 2 minims	81
Cremor Lithargyri		167
Creta præparata	10 to 100 grs.	82
Crocus		83
Crotonis Oleum	½ to 1 minim	84
Cubebæ	1 to 3 drms.	84
Cubebæ Oleum	5 to 20 minims	85
Cupri Sulphas	½ gr.—10 grs. an emetic	85
Cuprum		85
Cusparia	10 to 40 grs.	86
Cusso	¼ to ½ oz.	87
Cydonium		87
Decocta (*group*)		87 and 88
Decoctum Aloes compositum	3 to 10 drms	18
Decoctum Cetrariæ	1 to 2 oz.	67
Decoctum Cinchonæ flavæ	1 to 2 oz.	72
Decoctum Gallæ		110
Decoctum Cydonii		87
Decoctum Granati radicis	1 to 2 oz.	113
Decoctum Hæmatoxyli	1 to 2 oz.	114
Decoctum Hordei		115
Decoctum Papaveris		159
Decoctum Pareiræ	1 to 3 oz.	160
Decoctum Quercus	1 to 2 oz.	178
Decoctum Sarsæ	10 to 20 oz. per diem	190
Decoctum Sarsæ compositum	10 to 20 oz. per diem	
Decoctum Scoparii	2 to 4 oz.	194
Decoctum Taraxaci	2 to 4 oz.	214
Decoctum Tritici Repentis	4 to 8 oz.	219
Decoctum Ulmi	4 to 6 oz.	220
Depilatory		204
Digitalinum	$\frac{1}{20}$ to $\frac{1}{10}$ gr.	88
Digitalis	½ to 2 grs.	88
Donovan's Solution (Arsenic)	10 to 30 minims	4

DUL	Dose.		Page
Dulcamara			89
Eau de Luce	5 to 10 minims		25
Elaterium	$\frac{1}{12}$ to $\frac{1}{2}$ gr.		89
Elemi			90
Elixir Paregoric			54
Elixir Vitriol	5 to 10 minims		10
Elixir Vitriol, Mynsicht's	5 to 10 minims		10
Emplastra (*group*)			91
Emplastrum Ammoniaci cum Hydrargyro			117
Emplastrum Belladonnæ			42
Emplastrum calefaciens			57
Emplastrum Cantharidis			57
Emplastrum Ferri			103
Emplastrum Galbani			109
Emplastrum Hydrargyri			116
Emplastrum Lithargyri			137
Emplastrum Opii			157
Emplastrum Picis			163
Emplastrum Plumbi (*see* Lithargyrum)			137
Emplastrum Resinæ			180
Emplastrum Roborans			103
Emplastrum Saponis			189
Emplastrum Thuris			103
Enemata (*group*)			91
Enema Aloes Barbadensis	40 grs.	For each Enema.	17
Do. do. Socotrinæ	40 grs.		19
Enema Assafœtidæ	6 drms. Tinct.		37
Enema catharticum (En. Magnes. Sulph.)			143
Enema fœtidum (En. Assafœt.)			37
Enema Magnesiæ Sulphatis	1 oz.		143
Enema Opii	$\frac{1}{2}$ drm. Tinct.		157
Enema Tabaci	20 grs.		213
Enema Terebinthinæ	1 oz.		215
Ergota	20 to 30 grs.		91
Essentia Camphoræ			55
Essentia Zingiberis			229
Extracta (*group*)	$\frac{1}{2}$ gr.		93
Extractum Aconiti	2 to 8 grs.		13
Extractum Aconiti Rad. Alcoholic	$\frac{1}{2}$ gr.		14
Extractum Aloes Barbadensis	1 to 3 grs.		18
Extractum Aloes Socotrinæ	$1\frac{1}{2}$ to 3 grs.		19
Extractum Anthemidis	1 to 5 grs.		28
Extractum Belæ liquidum	1 to 2 drms.		41
Extractum Belladonnæ	$\frac{1}{4}$ to 1 gr.		42
Extractum Calumbæ	2 to 6 grs.		53
Extractum Cannabis Indicæ	$\frac{1}{4}$ to 1 gr.		56
Extractum Cinchonæ flavæ liquidum	10 to 30 minims		72
Extractum Colchici	1 to 2 grs.		76
Extractum Colchici Aceticum	1 to 2 grs.		76

EXT	Dose.	Page
Extractum Colocynthidis compositum	2 to 5 grs.	77
Extractum Conii	4 to 8 grs.	79
Extractum Ergotæ liquidum	15 to 30 minims	92
Extractum Filicis liquidum	30 to 60 minims	108
Extractum Gentianæ	10 to 15 grs.	110
Extractum Glycyrrhizæ	½ to 1 drm.	112
Extractum Hæmatoxyli	10 to 30 grs.	114
Extractum Hyoscyami	3 to 6 grs.	122
Extractum Ignatiæ Amaræ	⅛ to 1 gr.	153
Extractum Jalapæ	5 to 15 grs.	127
Extractum Krameriæ	5 to 20 grs.	130
Extractum Lactucæ	5 to 10 grs.	131
Extractum Lupuli	5 to 10 grs.	140
Extractum Lupulinæ	3 to 6 grs.	140
Extractum Nucis Vomicæ	⅛ to 1 gr.	152
Extractum Opii	½ to 1 gr.	157
Extractum Opii liquidum	12 to 20 minims	157
Extractum Papaveris	2 to 5 grs.	160
Extractum Papaveris liquidum	30 to 60 minims	160
Extractum Pareiræ liquidum	1 to 2 drms.	161
Extractum Quassiæ	3 to 5 grs.	178
Extractum Rhei	3 to 10 grs.	181
Extractum Sarsæ liquidum	1 to 4 drms.	191
Extractum Sarsæ comp. liquidum	1 to 4 drms.	191
Extractum Stramonii	¼ gr.	207
Extractum Taraxaci	5 to 15 grs.	214
Fel Bovinum purificatum	2 to 5 grs.	94
Ferri Arsenias	$\frac{1}{16}$ to 1 gr.	96
Ferri Carbonas saccharata	5 to 20 grs.	96
Ferri et Ammoniæ Citras	5 to 10 grs.	97
Ferri et Quiniæ Citras	5 to 10 grs	98
Ferri Iodidum	1 to 5 grs.	99
Ferri Oxidum magneticum	5 to 20 grs.	100
Ferri Oxidum nigrum. *See* Ferri Ox. Magneticum.		
Ferri Perchloridi Liquor		101
Ferri Pernitratis Liquor	30 to 60 minims	102
Ferri Peroxidum		103
Ferri Peroxidum hydratum	2 to 4 drms.	103
Ferri Phosphas	5 to 10 grs.	104
Ferri Potassio-tartras. *See* Ferrum Tartaratum.		
Ferri Pulvis. *See* Ferrum Redactum.		
Ferri Sulphas	3 to 5 grs.	105
Ferri Sulphas exsiccata	2 to 5 grs.	105
Ferri Sulphas granulata	3 to 5 grs.	105
Ferrum		95
Ferrum redactum	1 to 5 grs.	106
Ferrum Tartaratum	6 to 20 grs.	106
Ficus		107
Filix	60 to 180 grs.	108

FŒN		Dose.	Page
Fœniculum			108
Fumigatio Potassæ Nitratis			174
Galbanum			109
Galla		10 to 20 grs.	109
Gallic Acid	3 to 5 grs.	10 to 60 in albumenuria	6
Gargarisma Iodi			126
Gargarisma Myrrhæ			151
Gargarisma Plumbi			167
Gargarisma Potassæ Chloratis			173
Gargarisma Potassæ Nitratis			174
Gentiana		10 to 40 grs.	110
Glycerine Cream			112
Glycerine Cream with Camphor			112
Glycerine Ointment			112
Glycerine Soap			112, 190
Glycerinum		10 to 60 minims	111
Glycyrrhiza			112
Granati Radix			113
Guaiaci Lignum			113
Guaiaci Resina		10 to 30 grs.	113
Gummi Rubrum		5 to 10 grs.	64
Hair-Wash			58
Hæmatoxylum			114
Hemidesmus			114
Hirudo			115
Hoffmann's Anodyne Spirit			16
Hordeum			115
Hydrargyri Ammonio-chloridum. *See* Hydr. Ammoniatum.			
Hydrargyri Chloridum, former name for Calomel		Now Hydr. Corrosivum Sublimatum.	
Hydrargyri Iodidum rubrum		$\frac{1}{16}$ to $\frac{1}{8}$ gr.	118
Hydrargyri Iodidum viride		1 to 3 grs.	118
Hydrargyri Nitratis Liquor acidus			119
Hydrargyri Nitrico-oxidum. *See* Hydr. Oxid. Rub.			
Hydrargyri Oxidum rubrum		$\frac{1}{4}$ to 1 gr.	120
Hydrargyri Præcipitatum album. *See* Hydr. Ammoniatum.			
Hydrargyri Subchloridum. *See* Calomelas.			
Hydrargyrum			116
Hydrargyrum Ammoniatum			121
Hydrargyrum Corrosivum Sublimatum		$\frac{1}{16}$ to $\frac{1}{4}$ gr.	121
Hydrargyrum cum Creta		3 to 10 grs.	117
Hyoscyamus			122
Hypochlorite de Chaux			49
Hypophosphite of Lime		3 to 5 grs.	51
Hypophosphite of Soda			204
Hyposulphite of Soda			204
Iceland Moss Jelly			68

INF	Dose.	Page
Infusa (*group*)		124
Infusum Anthemidis	1 to 3 oz.	28
Infusum Armoraciæ Compositum	1 to 2 oz.	36
Infusum Aurantii	1 to 2 oz.	39
Infusum Bucco	1 to 2 oz.	46
Infusum Calumbæ	½ to 1 oz.	53
Infusum Caryophylli	1 to 2 oz.	61
Infusum Cascarillæ	1 to 2 oz.	61
Infusum Catechu	1 to 2 oz.	64
Infusum Chiratæ	1 to 2 oz.	68
Infusum Cinchonæ flavæ	1 to 2 oz.	72
Infusum Cuspariæ	1 to 2 oz.	86
Infusum Cusso	4 oz.	87
Infusum Digitalis	½ to 1 oz.	89
Infusum Dulcamaræ	1 to 2 oz.	89
Infusum Ergotæ	1 to 2 oz.	92
Infusum Gentianæ compositum	½ to 1 oz.	111
Infusum Gentianæ compositum (Lond.)	1 to 2 oz.	111
Infusum Krameriæ	1 to 2 oz.	130
Infusum Lini		135
Infusum Lupuli	1 to 2 oz.	140
Infusum Maticæ	1 to 2 oz.	144
Infusum Quassiæ	1 to 2 oz.	178
Infusum Rhataniæ. See Infus. Krameriæ.		
Infusum Rhei	1 to 2 oz.	181
Infusum Rosæ cum Acido Nitrico	1 to 2 oz.	184
Infusum Rosæ Acidum	1 to 2 oz.	184
Infusum Senegæ	1 to 2 oz.	195
Infusum Sennæ	1 to 3 oz.	196
Infusum Serpentariæ	1 to 2 oz.	197
Infusum Simarubæ	1 to 2 oz.	197
Infusum Uvæ Ursi	1 to 2 oz.	222
Infusum Valerianæ	1 to 2 oz.	222
Inhalatio (Ac. Hydrocyan. Dil.)	10 to 15 minims	8
Inhalatio Chlorinii	2 oz. Chloride of Lime	69
Inhalatio Chloroformi	15 minims	70
Inhalatio Creasoti	6 minims	82
Inhalatio Iodi	2 grs.	126
Inhalatio Iodi cum Conio		126
Iodide of Ammonium	2 to 5 grs.	21
Iodoform	5 grs.	126
Iodum	½ gr.	125
Ipecacuanha	Expectorant, 1 to 2 grs. Emetic, 15 to 30 grs.	126
Iron Alum		21
Jalapa	10 to 30 grs.	127
Jalapine	2 to 6 grs.	128
Jeremie's Laudanum	10 to 20 minims	159
Juniperi Oleum	1 to 3 minims	128
Juniper Tar Soap		190

KAM	Dose.	Page
Kamela	60 to 120 grs.	129
Kino	10 to 30 grs.	129
Kokum Oil		15
Krameria	20 to 60 grs.	130
Kusso (*see* Cusso)		87
Lactuca virosa		131
Lactucarium	3 to 8 grs.	131
Lapis Divinus		86
Lard, substitutes for		15
Laudanum. See Tinct. Opii.		
Laudanum Sydenham	10 to 20 minims	159
Laurocerasus		131
Lavandulæ Oleum	1 to 4 minims	132
Lemon Juice		133
Lemon Juice, Artificial		5
Lignum Guaiaci		113
Limon		132
Limonis Cortex		132
Limonis Oleum	1 to 4 minims	132
Limonis Succus	½ drm. to 4 oz.	133
Lini Farina		135
Lini Oleum		135
Lini Semen		135
Linimenta (*group*)		134
Linimentum Aconiti		14
Linimentum Ammoniæ		24
Linimentum Belladonnæ		43
Linimentum Belladonnæ et Chloroformi		43
Linimentum Calcis		50
Linimentum Camphoræ		55
Linimentum Camphoræ compositum		55
Linimentum Cantharidis		57
Linimentum Capsici		58
Linimentum Chloroformi		70
Linimentum Crinale		58
Linimentum Crotonis		84
Linimentum Hydrargyri		117
Linimentum Iodi		125
Linimentum Opii		157
Linimentum Saponis		189
Linimentum Simplex		15
Linimentum Sinapis		188
Linimentum Terebinthinæ		215
Linimentum Terebinthinæ Aceticum		215
Linum		134
Liquores (*group*)		136
Liquor Ammoniæ	10 to 20 minims	24
Liquor Ammoniæ Acetatis	15 to 60 minims	22
Liquor Ammoniæ Arsenitis	2 to 5 minims	4

LIQ	Dose.	Page
Liquor Ammoniæ fortior		24
Liquor Ammoniæ Iodidi		126
Liquor Antimonii Terchloridi		30
Liquor Arsenicalis	2 to 5 minims	4
Liquor Arsenici et Hydrargyri Hydriodatis		4
Liquor Atropiæ		38
Liquor Bismuthi Ammonio-citratis	½ to 1 drm.	45
Liquor Calcii Chloridi	30 minims	48
Liquor Calcis	½ to 2 oz.	50
Liquor Calcis Chloratæ	20 to 40 minims	49
Liquor Calcis Saccharatus	15 to 60 minims	50
Liquor Carbonis detergens		82
Liquor Chlori	½ to 1 drm.	68
Liquor Chloroformi Camphoratus		70
Liquor Ferri Iodidi	20 to 60 minims	100
Liquor Ferri Perchloridi		101
Liquor Ferri Pernitratis	30 to 60 minims	102
Liquor Hydrargyri Nitratis Acidus		119
Liquor Morphiæ Bimeconatis	15 to 30 minims	158
Liquor Morphiæ Hydrochloratis	15 to 30 minims	148
Liquor Plumbi Diacetatis		166
Liquor Plumbi Subacetatis		166
Liquor Plumbi Subacetatis dilutus		167
Liquor Potassæ	½ to 2 drms.	170
Liquor Potassæ Permanganatis	½ to 1 oz.	175
Liquor Quiniæ Ammoniatæ	30 to 60 minims	180
Liquor Sedativus (Battley)	10 to 20 minims	159
Liquor Sodæ	½ to 1 drm.	201
Liquor Sodæ Arseniatis	3 to 5 minims	199
Liquor Sodæ Chloratæ	20 to 30 minims	202
Liquor Strychniæ	10 minims	208
Liquor Volatilis Cornu Cervi		24
Liquor Zinci Chloridi		226
Lithargyrum		137
Lithia		137
Lithiæ Carbonas	3 to 6 grs.	138
Lithiæ Citras	5 to 10 grs.	138
Lobelia		139
Lotio Bismuthi		44
Lotio Boracis		46
Lotio Hydrargyri flava		122
Lotio Hydrargyri nigra		52
Lotio Plumbi Acetatis		166
Lotio Plumbi Diacetatis		167
Lotio Zinci Acetatis		225
Lotio Benzoini		44
Lupulus	(Lupuline, 5 to 10 grs.)	140
Magnesia	Antacid, 10 to 20 grs. Purgative, 20 to 60 grs.	141
Magnesia levis	Antacid, 10 to 20 grs. Purgative, 20 to 60 grs.	141

MAG	Dose.	Page
Magnesiæ Carbonas	Antacid, 10 to 20 grs. Purgative, 30 to 60 grs.	142
Magnesiæ Carbonas levis	Antacid, 10 to 20 grs. Purgative, 30 to 60 grs.	142
Magnesiæ Carbonas Ponderosum. *See* M. Carbonas.		
Magnesiæ Sulphas	2 to 4 drms.	143
Magnesium		140
Manna	2 to 8 drms.	143
Mastiche	20 to 40 grs.	144
Matica	½ to 2 drms.	144
Meconic Acid		155
Meconin		155
Mel		145
Mel Boracis		45
Mel depuratum		145
Menthæ Piperitæ Oleum	1 to 4 minims	145
Menthæ Viridis Oleum	1 to 4 minims	146
Mezereum		144
Mindererus Spirit		22
Mistura Ammoniaci	½ to 1 oz.	26
Mistura Amygdalæ	1 to 3 oz.	26
Mistura Amygdalæ Amaræ		26
Mistura Cetacei	1½ oz.	67
Mistura Creasoti	1 to 2 oz.	82
Mistura Cretæ	1 to 2 oz.	83
Mistura Ferri composita	1 to 2 oz.	97
Mistura Guaiaci	½ to 2 oz.	114
Mistura Moschi	1 to 2 oz.	150
Mistura Scammonii	Infant, ½ to 1 oz. Adult, 1 to 2 oz.	192
Mistura Spiritus Vini Gallici	½ to 1½ oz.	206
Misturæ (*group*)		147
Mixture for Whooping Cough		75
Mori Succus		147
Morphia		155
Morphiæ Bimeconatis Solutio	15 to 30 minims	158
Morphiæ Hydrochloras	⅛ to ½ gr.	148
Morphiæ Murias. *See* Morphiæ Hydrochloras.		
Morrhuæ Oleum	1 to 4 drms.	149
Moschus	5 to 10 grs.	149
Mucilagines (*group*)		150
Mucilago Acaciæ		1
Mucilago Amyli		27
Mucilago Tragacanthæ		219
Muriatic Acid		6
Mynsicht's Elixir of Vitriol	5 to 10 minims	10
Myristica	5 to 15 grs.	150
Myristicæ Adeps		150
Myristicæ Oleum	2 to 4 minims	151
Myrrha	10 to 30 grs.	151
Narcein		155
Narcotina		155

NEC	Dose.	Page
Nectandra		152
Nepenthe	15 to 30 minims	159
Nicotin		212
Nicotianin		213
Nitric Acid		8
Nux Vomica	1 to 3 grs.	152
Olea (*group*)		153, 154
Oleum Amygdalæ	2 to 4 drms.	26
Oleum Anethi	1 to 4 minims	28
Oleum Anisi	1 to 4 minims	28
Oleum Anthemidis	2 to 4 minims	29
Oleum Cajuputi	1 to 5 minims	47
Oleum Carui	2 to 4 minims	60
Oleum Caryophylli	1 to 4 minims	61
Oleum Cinnamomi	1 to 4 minims	74
Oleum Copaibæ	15 to 60 minims	80
Oleum Coriandri	1 to 4 minims	80
Oleum Crotonis	⅓ to 1 minim	84
Oleum Cubebæ	5 to 20 minims	85
Oleum Filicis Maris	30 to 60 minims	108
Oleum Juniperi	1 to 3 minims	128
Oleum Lavandulæ	1 to 4 minims	132
Oleum Limonis	1 to 4 minims	132
Oleum Lini		135
Oleum Menthæ Piperitæ	1 to 4 minims	145
Oleum Menthæ Viridis	1 to 4 minims	146
Oleum Morrhuæ	1 to 4 drms.	149
Oleum Myristicæ	1 to 4 minims	151
Oleum Olivæ	½ to 2 oz.	154
Oleum Pimentæ	1 to 3 minims	163
Oleum Ricini	Infant, 1 to 3 drms. Adult, ½ to 1 oz.	182
Oleum Rosmarini	2 to 5 minims	185
Oleum Rutæ	2 to 6 minims	185
Oleum Sabinæ	2 to 5 minims	186
Oleum Santal Flav.		177
Oleum Terebinthinæ	10 to 30 minims. Anthelm. 2 to 6 drms.	215
Olivæ Oleum	½ to 2 oz.	154
Opianine		156
Opium	½ to 2 grs.	154
Opium, Group of Preparations, with Proportions		158
Opodeldoc		189
Opodeldoc, Steer's		190
Opodeldoc Arnica		36
Oxide of Zinc Soap		190
Oxymel	2 to 4 drms.	145
Oxymel Scillæ	½ to 2 drms.	194
Pancreatic Juice		159
Papaver		159

PAP	Dose.	Page
Papaverin		155
Papier d'Albespeyres		58
Paramorphia		155
Paste, Arsenical		4
Pareira	30 to 60 grs.	160
Pearson's Solution of Soda	3 to 5 minims	199
Percolation, instructions for		239
Pepsine	15 grs.	162
Pepsina Porci	2 to 4 grs.	161
Pepsine Wine	1 drm.	161
Pepsine Lozenges	3 loz.	161
Phosphoric Acid, diluted	10 to 20 minims	9
Pilulæ (*group*)		162
Pilula Aloes Barbadensis	4 to 8 grs.	18
Pilula Aloes cum Sapone		18
Pilula Aloes Diluta		18
Pilula Aloes et Assafœtidæ	5 to 10 grs.	19
Pilula Aloes et Myrrhæ	5 to 10 grs.	19
Pilula Aloes Socotrinæ	5 to 10 grs.	19
Pilula Assafœtidæ composita	5 to 10 grs.	37
Pilula Calomelanos composita	5 to 10 grs.	52
Pilula Cambogiæ composita	5 to 10 grs.	54
Pilula Colocynthidis composita	5 to 10 grs.	78
Pilula Colocynthidis et Hyoscyami	5 to 10 grs.	78
Pilula Ferri Carbonatis	5 to 20 grs.	97
Pilula Ferri Iodidi	3 to 8 grs.	100
Pilula Galbani composita (*see* Pil. Assaf. Co.)		109
Pilula Hydrargyri	Alterative, 3 to 6 grs. Purgative, 10 grs.	117
Pilula Opii	3 to 10 grs.	157
Pilula Picis	10 to 15 grs.	164
Pilula Plumbi cum Opio	4 grs.	165
Pilula Rhei composita	5 to 10 grs.	181
Pilula Scillæ composita	5 to 10 grs.	193
Pimenta	10 to 30 grs.	162
Pimentæ Oleum	1 to 3 minims	163
Piper	5 to 20 grs.	163
Pix Burgundica		163
Pix liquida	20 to 60 minims	164
Plasma		27 and 164
Plumbi Acetas	1 or 2 to 8 grs.	165
Plumbi Carbonas		166
Plumbi Oxidum. See Litharge.		
Plumbi Subacetatis Liquor		166
Plumbum		165
Podophylli Resina	¼ to 2 grs.	167
Podophyllum (Radix)	10 to 20 grs.	167
Potassa. See Potassa Caustica.		
Potassa Caustica		169
Potassa cum Calce		170
Potassa Sulphurata	3 to 8 grs.	171

POT	Dose.	Page
Potassæ Acetas	10 to 20 grs.	171
Potassæ Bicarbonas	10 to 20 grs.	172
Potassæ Bitartras. *See* Potassæ Tartras Acida.		
Potassæ Boro-tartras		176
Potassæ Carbonas	5 to 12 grs.	172
Potassæ Chloras	10 to 20 grs.	173
Potassæ Citras	20 to 60 grs.	173
Potassæ Hydras. *See* Potassa Caustica.		
Potassæ Nitras	5 to 20 grs.	174
Potassæ Permanganas	2 to 4 grs.	174
Potassæ Sulphas	10 to 20 grs.	175
Potassæ Sulphis	10 grs.	175
Potassæ Tartras	Alterative, 20 to 60 grs. Purgative, 120 to 200 grs.	175
Potassæ Tartras Acida.	Diuretic, 20 to 60 grs. Aperient, 60 to 120 grs.	176
Potassii Bromidum	5 to 15 grs.	168
Potassii Iodidum	1 to 10 grs.	169
Potassium		168
Prunum		176
Prussic Acid	2 to 8 minims	7
Pterocarpus		177
Pulveres (*group*)		177
Pulvis Amygdalæ composita	60 to 120 grs.	26
Pulvis Antimonialis	5 to 10 grs.	29
Pulvis Aromaticus	½ to 1 drm.	74
Pulvis Catechu compositus	15 to 30 grs.	64
Pulvis Cinnamomi comp. *See* P. Aromaticus.		
Pulvis Cretæ Aromaticus	30 to 60 grs.	83
Pulvis Cretæ Aromaticus cum Opio	10 to 40 grs.	83
Pulvis Ipecacuanhæ cum Opio / *Pulvis Ipecacuanhæ compositus*	5 to 10 grs.	126
Pulvis Jalapæ compositus	10 to 20 grs.	128
Pulvis Kino cum Opio / *Pulvis Kino compositus*	5 grs.	129
Pulvis Rhei compositus	½ to 1 drm.	181
Pulvis Salinus Anticholerious	1 drm.	200
Pulvis Scammonii compositus	10 to 20 grs.	192
Pulvis Tragacanthæ compositus	10 to 60 grs.	219
Pyroligneous Acid		2
Quassia		177
Quercus	30 to 120 grs.	178
Quiniæ Arsenias	$\frac{1}{10}$ gr.	180
Quiniæ Sulphas	1 to 5 grs.	179
Quiniæ Valerianas	1 to 3 grs.	180
Resina		180
Resina Jalapæ	2 to 6 grs.	128
Rhatania (*see* Krameria)		130
Rheum	Stom. 1 to 5 grs. Purg. 10 to 20 grs.	181
Rhœas		182

RIC	Dose.	Page
Ricini Oleum	Infant, 1 to 3 drms. Adult, ½ to 1 oz.	182
Rosa canina		183
Rosa centifolia		183
Rosa Gallica		184
Rosmarini Oleum	2 to 5 minims	185
Rutæ Oleum	2 to 6 minims	185
Sabadilla	4 to 6 grs.	185
Sabina	5 to 15 grs.	186
Sabinæ Oleum	2 to 5 minims	186
Saccharum album		187
Saccharum Lactis	1 to 2 drms.	187
St. Ignatius's Bean		152
Sal Polychrest		175
Salicinum	5 to 10 grs.	188
Sambucus		188
Santoninum	Infant, 4 to 6 grs.	188
Sapo		189
Sapo durus	5 to 15 grs.	189
Sapo durus medicatus		190
Sapo mollis		190
Sarsa		190
Sarsæ Decoctum		190
Sarsæ Decoctum compositum		190
Sarsæ Extractum liquidum		191
Sarsæ Extractum liquidum compositum		191
Sassafras		191
Scammoniæ Radix		192
Scammoniæ Resina	4 to 8 grs.	193
Scammonium	5 to 15 grs.	191
Scheele's Prussic Acid		7
Scilla	1 to 2 grs.	193
Scoparius		194
Seidlitz Powder		203
Senega	15 to 20 grs.	194
Senna Alexandria	10 to 30 grs.	195
Senna Indica	10 to 30 grs.	195
Serpentaria	10 to 15 grs.	196
Sevum præparatum		197
Simaruba	15 to 30 grs.	197
Simaba Cedron Semen	1 to 3 grs.	197
Sinapis		197
Soda caustica		201
Soda-water		200
Sodæ Arsenias		199
Sodæ Biboras. See Borax.		
Sodæ Bicarbonas	10 to 30 grs.	199
Sodæ Carbonas	10 to 30 grs.	200
Sodæ Carbonas exsiccata	5 to 15 grs.	201
Sodæ Chloratæ Liquor	20 to 30 minims	202

SOD	Dose.	Page
Sodæ Hypophosphitis Solutio		204
Sodæ Hyposulphis	30 to 60 grs.	204
Sodæ et Potassæ Tartras	¼ to 1 oz.	203
Sodæ Phosphas	½ to 1 oz.	203
Sodæ Sulphas	½ to 1 oz.	204
Sodæ Sulphis	30 to 60 grs.	204
Sodii Chloridum	Tonic, 10 to 60 grs. Cathartic, 2 to 4 drms.	204
Sodium		198
Solution of Arsenic		4
Solution of Chloride of Arsenic		4
Solution, Donovan's		4
Solutio Sodæ Hypophosphitis		204
Solutio solvens mineralis (De Valangin)	3 to 10 minims	4
Solution of Acetate of Ammonia	15 to 60 minims	22
Solution of Bimeconate of Morphia	15 to 30 minims	158
Spiritus (*group*)		205
Spiritus Ætheris	30 to 60 minims	16
Spiritus Ætheris compositus. *See* Sp. Ætheris.		
Spiritus Ætheris Nitrici. *See* Sp. Æ. Nitrosi.		
Spiritus Ætheris Oleosus		16
Spiritus Ætheris Nitrosi	½ to 2 drms.	16
Spiritus Ammoniæ Aromaticus	20 to 60 minims	23
Spiritus Armoraciæ compositus	1 to 3 drms.	36
Spiritus Cajuputi	10 to 50 minims	47
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